The RUBBER AGE

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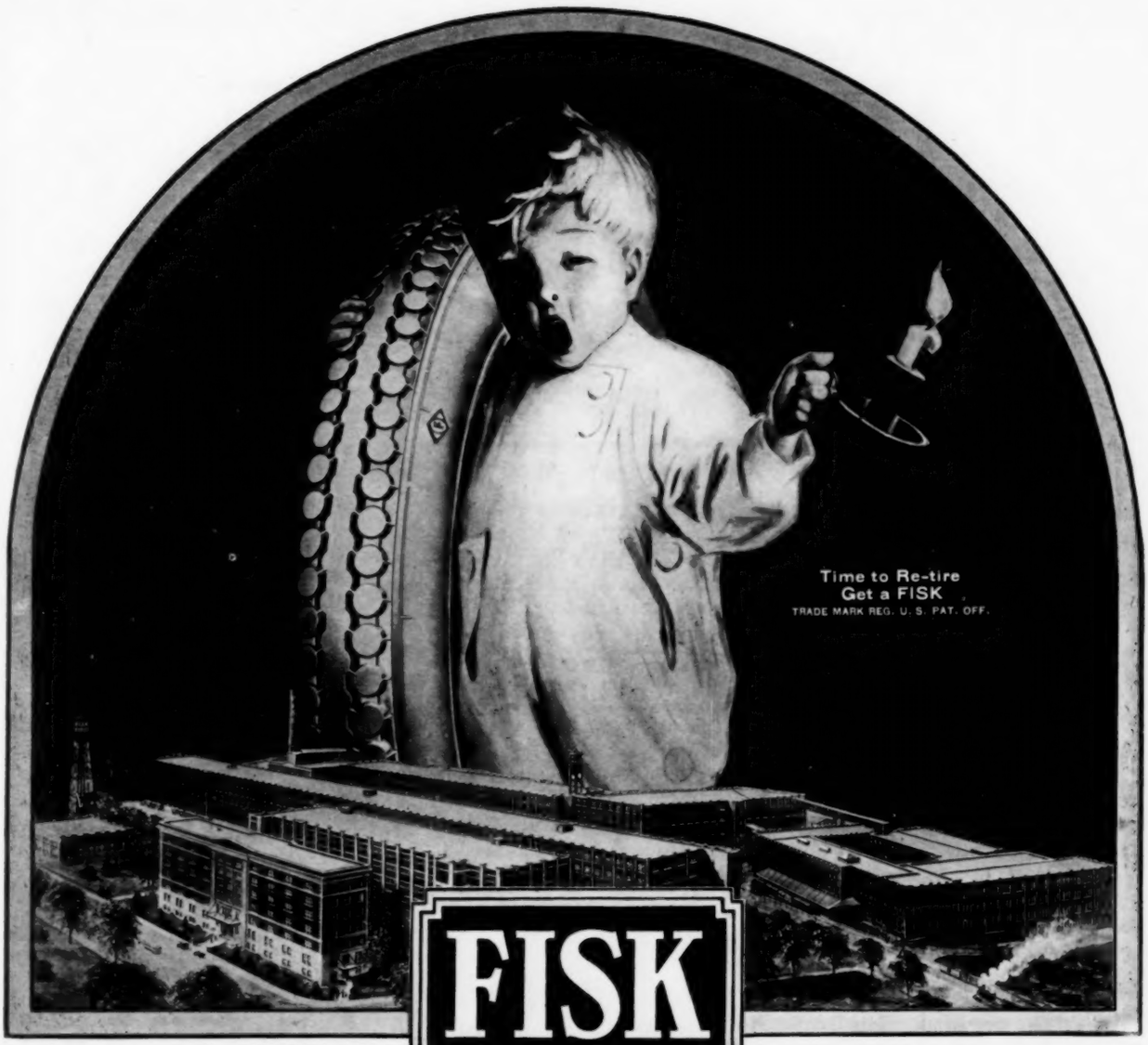

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P. L. PALMERTON, *Editor*

PETER P. PINTO, *Business Manager*

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With the Editor

During the last week the leading topic of discussion among those interested in the rubber industry has certainly been the formation of a rubber purchasing combine by American rubber and automobile manufacturers. The disclosure that the new organization was ready to act was the signal for the newspapers to encourage and spread a host of unfounded rumors that the move represented an intention to free this country from the demands of the British rubber restriction legislation. It has been learned conclusively by this journal that the purpose of the buying pool will be to protect American consumers from price fluctuations which the faulty functioning of the restriction scheme might again occasion, rather than to combat a system which has natural advantages and the support of a powerful government as well. This is the note which characterizes the news story with which the present issue opens. In appealing to a general class of readers, the daily press seeks the sensational side of the news and in so doing often distorts or destroys the true import of a story. The trade press, on the other hand, has the duty of reporting the news plainly, concisely and accurately for one section of the business world. Undue emphasis of any fact or rumor for the sake of a sensational headline may prove the greatest disservice.

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The RUBBER AGE
The Only Twice-a-Month Rubber Publication

Vol. 20 NEW YORK, DECEMBER 10, 1926. No. 5

Rubber Purchasing Pool to Stabilize Prices

Rubber and Automobile Manufacturers Combine for Purchase of Large Quantity of Rubber to Prevent Price Fluctuations

THE NEW COMBINE

Its Members—

The largest American rubber and automobile companies.

Its Purpose—

To prevent wide fluctuations in crude rubber prices.

Its Method—

The accumulation of a large tonnage of rubber in New York through purchases at favorable times, followed by sales or additional purchases as appear necessary to steady the market.

The formation of a $40,000,000 pool among tire and automobile manufacturers for the purpose of stabilizing crude rubber prices was disclosed on December 2 and immediately acclaimed as the most important development in the American rubber industry in several years.

Although newspapers throughout the country interpreted the organization of the new combine as fighting back at the British on account of their rubber restriction scheme which is now in its fifth year, THE RUBBER AGE has been informed that the only motive back of the movement is that of self-protection from such price fluctuations as harassed the rubber industry in 1925. In fact, it is certain that the figure at which rubber prices are to be stabilized will be determined in the light of present rubber restriction regulations, so that the combine will eventually show more agreement with the British demands than resentment against them.

Briefly, the plan of the new combine is to purchase a large quantity of rubber, perhaps 30,000 to 50,000 tons, in the open market and then use it in forcing the market to remain steady. When the price climbs beyond the figure decided upon as logical and necessary, then some of the stored rubber will be eased onto the market; on a falling market, the action would be just the opposite.

In order to secure working capital, the members of the combine have entered into a contract whereby they will pay nominal assessments. The hoard of rubber will be financed through selected banks. No financing by individual members will be required. It is understood that a credit of $40,000,000 has been arranged through the International Acceptance Bank of New York and other banks. The National Bank of Commerce, New York, will have charge of placing the paper involved in the purchase, according to reports. Financial men expect that the paper will have a wide distribution throughout the country.

The members of the combine are the largest tire and automobile manufacturers in the country. The group of rubber companies interested includes United States Rubber, Goodyear, Goodrich, Firestone, Fisk, Kelly-Springfield, Ajax and others; the automobile companies cooperating with them include General Motors, Willys Overland, Dodge Brothers, Packard, Studebaker and others. It has been known for several months that executives of these companies have been conferring on methods for relieving the rubber and automotive industries from the hazard of fluctuating crude rubber prices.

All the rubber purchases of the combine will be made through the General Rubber Company, a subsidiary of the United States Rubber Company and one of the largest buyers of crude rubber in the world. When the market is regarded as favorable in light of the figure at which stabilization is contemplated, purchases will be made and the rubber accumulated in New York. In the event of excessive market advances, the rubber will be returned to the market or be made available to the members of the combine to obviate their going into the market and sending it all the higher.

No indication has been given as to what the combine would regard as a favorable crude rubber price at the present time. Just before it became known that the combine had been formed, rubber prices had weakened to 36½ cents but there was an immediate reaction. The London average price for November, the first month of the current rubber restriction quarter, was 19.773 pence, or far below the demanded average of 21 pence. In order to make that average for the entire quarter, prices during December and January would have had to average 21.662 pence, equivalent to about 43.7 cents. Although prices grew firmer following the disclosure of the formation of the buying combine, they have not yet regained the 40-cent level. Unless the London price averages 21 pence for the quarter, rubber producers in Malaya and Ceylon will be allowed to export only 70 per cent of their production.

Many students of the crude rubber situation foresee difficulty in trying to stabilize the market at around 42 cents at the present time. An announced willingness to pay such a price, they point out would keep Eastern plantations at full production. Although the exportable percentage is only 80 at the present time, it would return to 100 next August 1 if the average in any quarter was not allowed to fall below 42 cents.

The recent weakness of the rubber market has been largely sentimental and not based on the statistical position. Nevertheless, it is not certain that a combine could comfortably take enough rub-

ber off the market to bring about an average of 42 cents for the entire quarter.

The formation of the pool also had its effect on the stocks of the rubber companies concerned. Shares in several of them gained from one to three points. It is generally recognized that nothing would better the financial position of the large rubber companies as much as some guarantee that rubber prices would remain fairly stable.

A Washington dispatch indicated that the Department of Justice had taken cognizance of the new rubber pool but had seen nothing to warrant an investigation or interference. The Webb-Pomerene Act for foreign trade combinations is expected to provide ample protection from anti-trust prosecution.

The announcement of the combine's formation brought forth a number of rumors about other activities. Principal among these were reports that a group of influential Italian automobile manufacturers were arranging to establish large rubber plantations in Bolivia and that Henry Ford will soon become a rubber producer on his own account and manufacture tires with the products of his own plantations. None of these have been confirmed. The rubber buying group have not indicated any intention to engage in joint rubber cultivation also.

Talk of Sellers' Pool

Talk of a producers' or sellers' pool to offset the buying combine sprang up in London but appeared to wither when it was made clear that the new American group did not represent opposition to the restriction legislation so much as it did a desire to see the British producers get a fair price without endangering the position of the American manufacturer and consumer.

Coincident with the announcement about the American combine came a report that the legislative council of Ceylon was earnestly debating a motion calling for a discontinuance of rubber restriction in that island. The motion expressed dissatisfaction and the belief that further restriction was uneconomic and should not be enforced. As we go to press, the result of the debate was still unknown. The adoption of the resolution would mean nothing without the agreement of the British Secretary of State for the Colonies which is entirely unexpected.

Various factors interested in the rubber industry expressed themselves regarding the new buying combine, practically all of them favorably. C. B. Seger of the United States Rubber Company said that the new organization had been launched for the protection of the American consumer of rubber goods. H. S. Firestone announced the adherence of his company to the scheme and expressed his personal opinion that it would be effective in protecting the rubber interests of this country.

Any movement in the direction of stabilizing rubber at a reasonable price is a step in the right direction, was the opinion expressed by Walter Fletcher, chairman of Hecht, Levis & Kahn, Ltd., rubber merchants of London.

Sir Arthur Shirley Benn, a member of Parliament, thought the buying pool would prove a benefit to British and American alike since both lose by fluctuating prices.

Dovan Wins Suit

Through a decision just handed down by the Third Circuit Court of Appeals at Philadelphia, the Dovan Chemical Corporation of New York has won its suit against the Corona Cord Tire Company for infringing its patent No. 1411231 covering the use of di-substituted guanidines, particularly diphenyl guanidine, as rubber accelerators. The decision reverses that of District Judge Gibson of Pittsburgh who decided against the plaintiff last February and held the patent invalid. The Dovan Company immediately appealed with the result that the new judgment confines its rights to control the manufacture, sale and use of the di-substituted guanidine class of accelerators subject to their patent.

Further details of the outcome of this litigation in which the rubber industry has taken the greatest interest will appear in the December 25 issue of THE RUBBER AGE.

CONVERSE INCORPORATES SEPARATE TIRE COMPANY

The Converse Tire & Rubber Company has been incorporated in Massachusetts with authorized capital of $1,000,000, to manufacture and deal in auto tires and do a general rubber business. The officers are: President and treasurer, Hugh Bullock, who is also treasurer of the Converse Rubber Shoe Company; clerk, Francis H. Caskin. Directors include: Hugh Bullock, M. M. Converse, John K. Converse, who will direct New England sales; William L. Burgess, who comes from the Century Tire Company of Chicago to assume the post of general manager in charge of sales and manufacturing; and A. Hellman, D. Stearn, and C. Egolf, all tire distributors in various sections of the country.

Plans include the manufacture of a full line of tires and tubes in high pressure, balloon, and heavy duty types. The first-quality tire has been named the "President" cord, an all black tire with a rugged block tread design. This will be made in high pressure, balloon and heavy duty truck styles. In addition a second or "price" line of tires known as the "Alpine" will be manufactured.

Additional equipment is now being installed in the plant, and plans call for the lease of that part of the Converse Rubber Shoe Company's plant devoted to tires and tubes to the new company. The shoe company will also do the milling work for the tire company and sell the semi-finished rubber.

GOODYEAR TO ANNOUNCE TREAD DESIGN CHANGES

The Goodyear Tire and Rubber Company of Akron is making changes in the tread design of their All-Weather tire which has made necessary the purchase of a large number of new molds at an expenditure estimated to run beyond $2,000,000. Although the company has not yet formally announced its changed tire and is not expected to do so until after the first of the year, it is generally known that the change involves a broadening of the tread to secure uniform wear and to strengthen the side walls.

Rumors of the Goodyear tread change were responsible for unwarranted reports that the revision in design was so revolutionary as to compel other tire companies to follow suit. However, expert opinion on the subject is to the effect that the change cannot be construed as a radical one although it is in a direction that may prove advantageous for other manufacturers to follow from time to time.

OPERATIONS CURTAILED IN NEW ENGLAND PLANTS

In contrast with the situation five or six weeks ago, New England rubber factories are generally feeling the effects of the off-season and have slackened production schedules somewhat. This is particularly true of automobile top manufacturers, sheeting rubberizers, and tire manufacturers.

Footwear mills are approaching the turning-point of the season and while some have made their stock goods earlier than others, it is generally predicted that there will be a general falling off unless heavy snows appear in the eastern territory.

Heavy mechanical goods manufacturers are the exception in the picture, running the heaviest production of the year. Being large users of reclaimed rubber, the mechanical rubber goods manufacturers have helped to keep reclaiming mill schedules full. Heels and soles are generally slow as the selling season on cobbler heels is over, and the shoe industry is now experiencing slack business after several months of high output.

Probably the tire plants will be the first to pick up productive speed, as the clearing up of the price and dating situation has served to bring a greater volume of orders for spring delivery.

FIRE CAUSES SHUTDOWN OF APPLETON FACTORY

Three buildings of F. H. Appleton & Son, Inc., Franklin, Mass., rubber reclaimers, were damaged Dec. 2 by a fire which started just before daybreak. It was reported that the main building, the power plant and the oil house were destroyed, and damage was estimated at approximately $250,000. It is probable that the plant will be closed for some time.

Michelin Tire Company Brings Out New Tire, Tube and Rim

Combination of Tire, Tube and Rim, Called "Confort Bibendum", is Claimed to Have all Advantages of Existing Clincher, Straight-Side and Drop-Center Types.

A new tire, tube and rim, announced on November 10 by the Michelin Tire Company of Clermont-Ferrand, France, is expected, according to the original announcement, to cause revolutionary changes in tire and rim equipment abroad and perhaps eventually to have its effect in the United States also. The principle on which the new rim is built, and the rim is the most important unit of the new combination, is similar to that of the drop-center rim in common use but differs in one important particular.

In the November 25 issue of THE RUBBER AGE brief mention was made of this development although complete details were not available in this county at that time. Since then this journal has obtained a copy of the original description and drawing of the new Michelin equipment as it appeared in *L'Auto*, a French sporting newspaper, in addition to details furnished to the Rubber Division of the Department of Commerce by Trade Commissioner H. H. Kelly.

How Some View the Development

Some see in this new development an effort by Michelin to combat further the American and European tire companies who have been constantly encroaching on Michelin's supremacy in France and other important automotive markets. Trade Commissioner Kelly in his report says, "Controlling 80 per cent of the entire French tire market, Michelin may be expected to impose the new types on the automobile industry without great difficulty, and gain a lead of several months over its competitors in France, including American companies..... In principle, the new tires are straight-sides, and this fact gives evidence of the influence exerted in France by the straight-side type originally introduced by American companies".

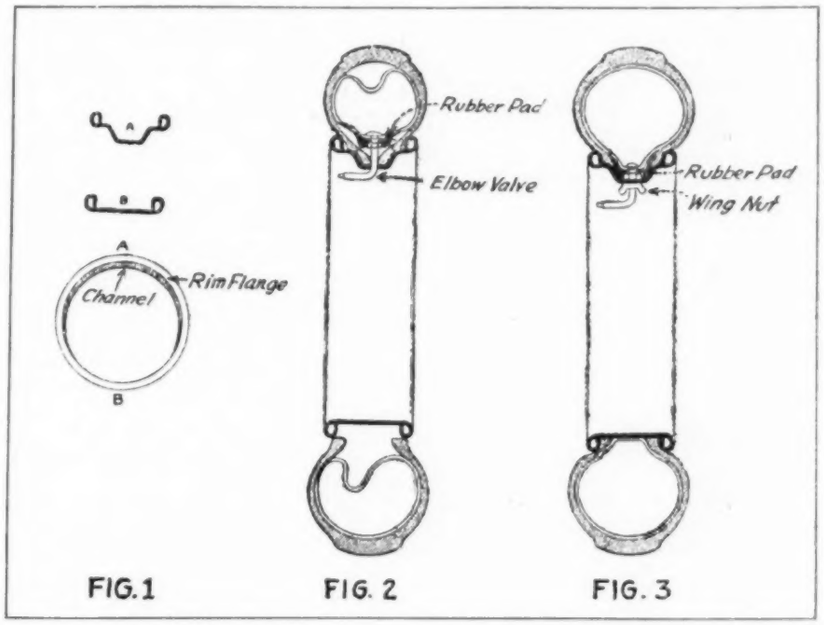
Early information is to the effect that the new tires, rims and wheels will be in production next January. Nothing has been made public as to prices, except that they will not be higher than for the old types. Samples have been shown to French automobile manufacturers, and it is understood that some of the larger producers will adopt the equipment as soon as it can be supplied to them.

The new rim, tube and casing combination is the culmination of several years of experimentation on the part of Michelin engineers who are said to have found fault with all the existing types. In the article in *L'Auto*, apparently written directly from Michelin's announcement, the development and use of clincher, straight-side and drop-center rims are discussed. The simplicity and rigidity of clincher rims was recognized but the difficulty of mounting and demounting tires, the danger of rim cutting and other disadvantages worked against its adoption as the ultimate type.

The straight-side rim was credited with these advantages — Difficulty of tire mounting, added weight, necessity of flap, and frequent demounting to clean rim and beads.

The most recent type, the drop-center rim, was admittedly an improvement in that it did not have the complicated parts used in the straight-side rim and demounting was made easy on account of the channel or depression extending around the rim into which the outer bead of a tire could be pushed. However, this feature was found by Michelin to be a drawback as well as an advantage since in case of a puncture there was grave danger of the tire flying off the rim in its deflated condition. Since Michelin's engineers believed that neither the straight-side nor the drop-center rim offered material advantages over the clincher type, Michelin continued to champion the clincher while making extensive experiments to develop a new type of tire fastening. The result was the newly-announced equipment which Michelin calls the "Confort Bidendum" and expects to prove revolutionary.

The new equipment consists of a rim, casing and inner tube. The rim consists of a single piece with no movable part. It has two straight edges to engage the beads of the casings. In the region of the valve hole a channel or depression is made in the rim. The depth of this channel is greatest at the valve hole and decreases gradually until it disappears at a point somewhat below the center of the rim on both sides. This is shown in Fig. 1 in which the shaded portion denotes the depth of the depression. The rim section marked "A" in Fig. 1 is a cross-section of the rim at point A shown in the side view of the rim, and diagram "B" is a cross-section at point B. It is in having the channel extend only part way around the rim that the new equipment differs principally from the drop-center rims already in common use.



Details of New Michelin Tire, Tube and Rim

The inner tube designed for use with this rim differs from ordinary inner tubes only in the elbow form of the valve stem and the thick rubber pad applied at the base of the valve as shown in Fig. 2.

The casing differs but slightly from the straight-side tires already made by Michelin. The beads are reinforced with steel wire. The shape and tread design differs somewhat from the regular Michelin tires, although nothing revolutionary is offered in this connection. New sizes are instituted however, which for a time at least will force renewal business to go to Michelin.

The channel extending in both directions from the valve hole makes possible the mounting and demounting of the tire. By forcing the tire beads into this

depression near the valve, the beads at the opposite side of the rim are able to pass over the rim edges as shown in Fig. 2. It is only near the valve that the depression is deep enough to permit this operation. Therefore mounting and demounting can be done at only one section of the wheel, that near the valve opening.

The function of the rubber pad at the valve base is as follows: As the tube is inflated this rubber pad is gradually forced down into the depression which space it completely fills. It consequently forces the tire beads up against the rim flanges not only near the valve base but all around the rim. So long as the valve pad occupies the channel there is no possibility of the beads descending into the depression to permit the demounting of the tire. This is shown in Fig. 3. Much is made of this safety feature.

As soon as the tube is fully inflated, the wing nut, corresponding to the valve lock nut on regular tube valves, is tightened thus locking into place the rubber pad at the base of the valve. Then even if the tube becomes deflated there is said to be no possibility of the tire coming off the rim.

The following summarizes the claims made by Michelin for the advantages of the Confort Bibendum over other types:

Advantages over Other Types

1. Over clincher rims—The tire is absolutely locked in position but it is easy to mount and demount.

2. Over straight sides—It is more simple, having no flaps or locking rings. It is water tight. It is as easy to take off a tire that has been in use several months as it is to demount a freshly mounted tire. The weight is less, resulting in less inertia of the wheel. And due to the one piece construction of the new rim, the factor of safety is greatly increased.

3. Over the drop-center rim—The new rim is more secure and is safer on account of the fact that at the one place where the tire may come off the rim it is held most securely. It is lighter and stronger. The new rim reduces the strain on the inner tube whereas in the drop-center rim the portion of the tube next to the road is under great tension. The other advantage claimed is that the valve is automatically centered when the wing nut is tightened.

In announcing this new development Michelin stated that two sizes would be brought out early in 1927, the 12 x 45 cm. and the 13 x 45 cm. In each case the smaller figure designates the cross section and the other the rim diameter. These sizes replace the 120 x 720 mm. and 130 x 730 mm. sizes used on 6-10 H.P. automobiles. The following explanation is given as to the adoption of the centimeter scale instead of the millimeter sizes used in the past.

"Size 12 x 45 cm. means a tire of 12 cm. cross-section mounted on a rim of 45 cm. diameter. The advantage of this system can be easily seen. The present sizes 720 x 120 and 730 x 130 are hard to pronounce and to write and only experts know that these two sizes can be mounted on the same rim. On the other hand it can be seen at a glance that the 12 x 45 and 13 x 45 can be mounted on the same 45 cm. diameter rim."

The wheel for the new rim also forms an integral part of the system, and since Michelin builds 65 per cent of the automobile wheels used by French manufacturers, the certainty of imposing the new type quickly is much increased. The wheel is of the metal-disk type, in dimensions to correspond with the tires. It is "balanced," it is claimed, by reason of the fact that the lesser weight on one side due to the eccentric depressed rim is compensated, at the same point, by the weight of the tire-valves and its rubber pads.

The Michelin statement concludes: "The 'Confort Bibendum' will constitute, beginning next year, standard equipment for French cars. The advantages that it presents are great, and neither the new tire nor the wheel will be more expensive than the old equipment. Transformation of existing cars will be effected easily by changing the wheels."

USE SYNTHETIC RUBBER AS BAIT FOR SWINDLE

Two swindlers, who gave the names Dwyer and Graham and represented themselves to be executives of the "Forco Products Company", manufacturers of synthetic rubber, have tricked the Equitable Trust Company, New York, out of $148,000 by means of forged checks on that bank deposited in the National Newark & Essex Banking Co. by an innocent dupe.

The forgers advertised in the newspapers for an executive and E. P. Ford, of East Orange, N. J., who answered the advertisement, was hired by the pair some weeks later. He was given a check, told to deposit it and to open a suite of offices to serve as a branch of the imaginary synthetic rubber company. Later Mr. Ford was given another check for deposit, which brought the total deposits in the National Newark bank up to $153,000. Through Ford, they then withdrew $148,000 and disappeared.

Carolina Plant Busy

For the past month the Carolina Rubber Company, Salisbury, N. C., has been operating day and night in order to meet the demand for Cloverleaf tires and tubes. "Business has been especially good for the past few months," said G. E. Rusher, secretary, recently. "The outlook for the future is brighter than it has ever been in the history of the company."

India Awards Contract

The India Tire & Rubber Co., Akron, has awarded a contract involving approximately $20,000 to W. A. Franklin & Sons Construction Co. for an addition to the boiler room and the building of a tube and mold room.

NEW RUBBER COMPANY TO OPERATE IN BRAZIL

Concern Organized in London by British Rubber Men Will Acquire Important Wild Rubber Estates in Brazil and Operate exclusive Washing Factory at Para.

A new rubber concern known as Para Plantations, Ltd., and having a capital of £300,000 (about $1,455,000), has been formed in London by a number of British rubber interests for the production and marketing of rubber in Brazil.

It is contemplated that the new company shall immediately take two important steps—first, to acquire all of the stock of the Companhia Paraense de Plantacoes de Borracha which owns and operates wild rubber estates totalling 415,680 acres in the Amazon valley, and second, to secure through the same Brazilian company an exclusive concession from the Brazilian government for the erection and operation of a factory to wash, crepe and standardize the rubber coming out of the Amazon.

The estates which will be acquired when the Companhia Paraense de Plantacoes de Borracha is taken over comprise Tapajos estates of 168,580 acres and Xingu estates of 247,100 acres. On the Tapajos estates there are 300,000 fully grown trees, of which 150,000 are numbered and are being tapped. It is estimated that there are not less than 350,000 trees available for tapping on the Xingu estates which have not yet been opened up. The Tapajos estates yielded 628,760 pounds of rubber in 1924 and 1,727,530 pounds in 1925. It was from these estates that Sir Henry Wickham took the rubber seeds which formed a basis for the rubber plantation industry of the Middle East.

Estimate Profits

It is estimated that the rubber estates will yield the new company a profit of £15,000 in 1927 and not less than £80,000 in 1931. This profit is computed on a selling price of 1s. 6d. per pound for the rubber. Under the laws of the state of Para, the Brazilian company which will be taken over receives the benefit of a reduction of 50 per cent in all export duties for a term of twenty years.

Profits to come from the operations of the rubber washing factory are estimated at £22,000 per year. The factory will be situated at Para so that satisfactory shipping facilities will be available. Rubber from all parts of the Amazon valley will be treated. The product of the factory will be marketed under government grading as No. 1 Para, No. 2 Para, etc.

Dill Opens Akron Branch

The Dill Manufacturing Company, Cleveland, manufacturers of tire valves and valve parts, announce the opening of an Akron branch office at 812 United Building. Wright Bronson is in charge. This branch makes possible closer cooperation with the Akron tire factories.

GOODYEAR INVOLVED IN ANOTHER ACTION

Attorneys for Nine Stockholders Seek to Recover $15,000,000 Alleged to Have Been Wrongfully Made Since Refinancing—Two Other Cases Still Pending.

A third suit involving the Goodyear Tire & Rubber Co. was started Nov. 19 when attorneys for nine stockholders filed a suit in Common Pleas Court at Akron against Clarence Dillon and John Sherwin, bankers, and the Goodyear Company. The plaintiffs seek $15,000,000 for profits alleged to have been wrongfully made by the individuals and the company through the refinancing plan of 1921. The stockholders also ask that the bankers be ousted from control of the corporation.

Stockholders bringing the suit are F. C. Tomlinson, Frank C. Howland, P. H. Schneider, Paul V. Robinson, William T. Benz, Robert H. Bishop, Jr., George B. Durell, H. A. Leisy and Frederick W. Freeman. They stated that they were acting on behalf of themselves and all other stockholders.

Charges Made By Plaintiffs

It is charged in the petition that when Goodyear was refinanced by the issuance of management stock in 1921, the defendants for the alleged purpose of evading the laws of Ohio relating to usuary, provided that the plan should be consummated and the documents pertaining thereto executed in New York State. The charge is made that if the plan of refinancing recently proposed goes through, the three defendants will purchase the bonds, and, as a result of the purchase will acquire an additional profit of $3,000,000. It is maintained in the petition that the refinancing plan was proposed by the present board of directors on instruction from Messrs. Dillon and Sherwin.

It is also charged that during all the time that has intervened since May 12, 1921, Dillon Read & Co., have been borrowing large sums of money from Goodyear, said loans at times, it is maintained in the petition, aggregating more than $7,000,000. The petition says that the loans were made without any security and without authorization of the board of directors.

Sherwin Denies Charges

In a statement issued soon after the suit was filed, John Sherwin denied the charges made by stockholders, and explained that his connection with Goodyear was through a bank which had made loans to the company.

Two other suits are pending against the Goodyear Company, one filed by G. Walter Booth, Akron prosecutor, in behalf of stockholders, and another by attorneys representing F. C. Tomlinson, a stockholder. Both attack the 1921 refinancing plan and seek to oust present Goodyear directors.

The date originally set for the hearing of the demurrer filed by the Goodyear Company to the Booth petition in the Ohio Supreme Court was Nov. 30, but the Court recently ordered the case dropped from hearing until the January term. Mr. Booth asks that the company be prevented from exercising its corporate powers in the State of Ohio and that eight directors named by holders of the management stock be ousted from office. He contends in his petition that the 1921 issue of management stock is illegal. Names of stockholders on whose behalf the Akron prosecutor is acting have not been divulged.

Judge Scott D. Kenfield in Common Pleas Court on Nov. 5 reserved decision in the suit of F. C. Tomlinson to reopen the Loura L. T. Weiss suits which attacked the 1921 refinancing of the Goodyear Company and were settled in 1923.

Both sides are to submit briefs which Judge Kenfield will consider, in addition to the mass of written evidence introduced during the hearing of this case.

The Ohio Supreme Court has set Jan. 11 as the date for hearing arguments in the Booth-Goodyear suit.

On Dec. 1 a letter signed by F. A. Seiberling, H. B. Manton and R. L. Robinson, majority members of the common stock voting trustees, was mailed to approximately 60,000 Goodyear stockholders. This letter attacked the statement issued by P. W. Litchfield on Oct. 22, in which the present president charged that the trustees were blocking the proposed reorganization. It was charged in the letter that the Litchfield plan is just an attempt by the financiers to perpetuate their control of the company through issuance of prior preference and preferred stock of equal voting power with the common stock, which is the controlling stock in the company.

It was further charged that alleged manipulations of these two classes of stock since 1921 has given Dillon, Read & Co. and other financiers control of these securities. No dividends have been paid on common stock since 1920, the letter stated.

"We have consistently maintained", it was written in the letter, "that the financial interests did not buy the company in 1921 when they reorganized it and that the company still belongs to the stockholders."

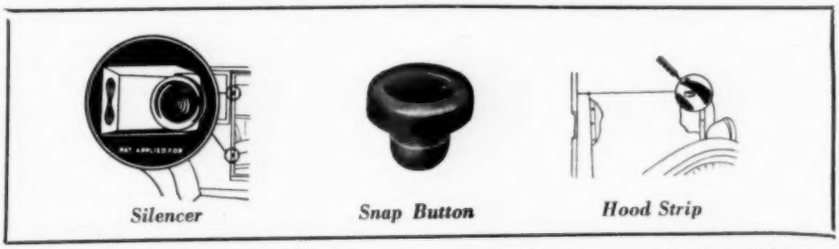
JORGENSEN COMPANY MAKES RUBBER AUTO SPECIALITIES

The Jorgensen Speciality Company of Erie, Pennsylvania, is manufacturing a line of rubber automobile accessories designed to eliminate car noises. These include door silencers, hood strips and "snap" buttons.

The Jorgensen door silencers are said to be a considerable improvement over the ordinary door bumpers for closed cars in that they are fitted with air cushion holes which check the door when closing and hold it firmly when closed. A vacuum cup on the front of the block grips the door tightly, preventing motion. This cup also absorbs the shock of closing the door and prevents window breakage.

The hood strip made by the company is designed to take the place of the ordinary fabric hood lacing. The strip is molded from the best quality rubber and fitted with snap buttons spaced so as to fit into the regular lacing holes in the cowl. The top of the strip is set with vacuum buttons which grip the hood tightly and prevent any motion. When the strip is applied the edge of the hood butts against the edge of a flange on top of the strip to make it watertight.

The company also produces an individual snap button which may be used without the hood strip. As a button shows wear it can be easily replaced.



Silencer *Snap Button* *Hood Strip*

Hood Declares Dividend

Directors of the Hood Rubber Company, Watertown, Mass., have declared the regular quarterly dividend of $1, payable Dec. 31, 1926, to stockholders of record Dec. 20.

Sell Alligator Equipment

A quantity of machinery and equipment formerly used in the rubberizing department of the old Alligator Company, St. Louis, Mo., for the manufacture of automobile top material and friction tape was recently sold at public auction by Louis P. Aloe, receiver of the defunct company. It was a detail sale and brought $8,816. Equipment used in the raincoat department of the Alligator Company had been purchased previous to the auction by D. M. Flournoy, who is continuing the business under the established firm name. The sale is subject to the approval of the Court.

Old Colony Tire Stopping

Manufacturing operations at the plant of the old Colony Tire Company, makers of Blue Hills Cord Tires and Tubes, Canton, Mass., are practically at a standstill and the surplus materials and equipment are being disposed of. This company took over the plant of the George Grow Tire Company several years ago, and is now officered by L. P. Bosworth, president, and J. F. Kenney, treasurer.

FACTORIES PROFITED BY SLUMP IN COTTON

Low Inventories of Tire Fabrics Enabled Many Rubber Manufacturers to Take Advantage of Rock Bottom Quotations Through Placing Large Contracts.

As the slump in cotton quotations found tire manufacturers in a favorable inventory position, many of them have been able to take advantage of lower prices of tire fabrics by placing large contracts for future delivery at prices which were regarded both by cotton textile men and rubber company executives as rock bottom. As a result, it is reported, most of the rubber companies were able to cover their tire fabric and yarn requirements for the first six months of 1927 at a great saving.

Although demand for tire fabrics has now slowed up a little due to smaller consumption in the past month, mill men express confidence that buying will be resumed after Jan. 1. They report that a fair increase in demand may be expected as a result of the resumption of the spring dating policy. Solicitation of orders under spring dating terms began Nov. 15, but at the time this was written it was too early to tell definitely what result these orders would have on tire production.

Most of the recent contracts placed for tire fabrics involved contracts varying between 75,000 and 100,000 pounds, with deliveries ranging all the way from January to September, but mostly grouped in the first six months of 1927. Carded peeler cords have been in the greatest demand, and interest displayed in square woven fabrics was comparatively small.

Factories in the Akron district at the present time are operating at approximately 80 per cent of capacity, with daily tire production estimated at between 112,000 and 115,000 tires a day, compared with an aggregate production of more than 135,000 several months ago. Most of the large rubber companies in that district are working five days a week or less in tire departments, and night shifts have been cut down. It is reported that about 1,000 builders have been either laid off or transferred to other departments.

In contrast, all footwear departments are working at capacity, and it is anticipated that this condition will continue for some months to come. Advance orders for canvas rubber-soled shoes, which normally start to be received about the first of the year, have already begun to be booked in greater volume than for the preceding three years.

Reopen Firestone Mills

The Firestone Cotton Mills at Fall River, Mass., reopened Nov. 29 with a smaller working force after a complete shutdown of five weeks for inventory taking. Previous to the shutdown the mill had been operating 24 hours a day. Officials refused either to confirm or deny a report that a 10 per cent reduction in wages had been effected. It was rumored that the result of the inventory was a decision to cut down overhead by the readjustment of wages.

It is understood that the United Textile Workers will contest the wage adjustments in view of the Statement by John Campos, secretary of the labor organization, that the 10 per cent average reduction in wages of the Firestone mills is unreasonable.

It is believed that when full time operations are resumed at the mills, the United Textile Workers will offer resistance to the wage cut. In the event of the union refusing to accept the wage adjustments, it is rumored that the Firestone Cotton Mills may seek a location in the South.

TO CLOSE FALL RIVER TIRE FABRIC FACTORY

It is reported from reliable sources that the plans of the Connecticut Mills, manufacturers of tire fabrics, to open a new factory in Alabama involve closing its plant at Fall River, Mass. Originally the company planned to equip the contemplated southern plant by removing a third of the machinery from each of its mills at Danielson, Conn., Fall River and Taunton, Mass., but it is now said that the 33,000 spindles at Fall River will be removed and the plant shut down. The unit at Taunton will be maintained intact.

Obadiah Butler, president of Connecticut Mills, signed contracts some weeks ago by which a $1,000,000 factory will be constructed at Albany-Decatur, Alabama. Under the terms of this contract the Textile Realty Company will build the plant and lease it to Connecticut Mills for 15 years, at the termination of which period the company will buy the factory.

NEW ENGLAND SOUTHERN MILLS NOW AT CAPACITY

The New England Southern Mills, manufacturers of tire fabrics, is operating all plants at capacity, with the sole exception of a mill at Lisbon, Me., a yarn factory, equipped with 33,000 spindles, or just one-tenth of the company's entire complement of spindles. Since early in September the print cloth machinery at the various mills has been operating at 100 per cent capacity, compared to 75 per cent capacity operations prior to that time.

Lawrence & Co., with offices at 89 Franklin St., Boston, and 24 Thomas St., New York, are selling agents for the New England Southern Mills.

ESTIMATE PUTS CROP AT 18,399,000 BALES

Forecast of Department of Agriculture is 481,000 Bales Over Indicated Cotton Yield for Nov. 1—Ginnings Reported as 12,953,708 Running Bales.

On the basis of conditions on Nov. 14, the Crop Reporting Board of the Department of Agriculture forecast on Nov. 20 a cotton crop of 18,399,000 bales, an increase of 481,000 bales over the estimate made as of Nov. 1. This report was further confirmation of the forecast made on Oct. 8 that this season's cotton crop would be the largest ever grown. The record was set in 1914 when 16,135,930 bales were harvested. The forecast had practically no effect on the market, despite the fact that it was about 350,000 bales more than the average of guesses made by Cotton Exchange members. For the fourth time this season the bearish crop estimate from Washington was discounted.

Ginnings to Nov. 14, according to the Census Bureau, totaled 12,953,708 running bales, a considerable increase over ginnings to the same date last year, at which time the total was reported as 12,260,352. The total for the same period in 1924 was 11,162,235 bales.

The figures show that ginning has been increased in line with the size of the crop and when the lateness of the crop is considered, it is expected that the next report of the Census Bureau will show another gain over the amount of ginnings to the same date last year.

Much Will be Left Unpicked

Outside of official circles, it is predicted that up to 1,000,000 bales of cotton will be left unpicked this year. However, it is not thought likely that this will be in addition to the usual amount of cotton abandoned at the end of each season. According to a statement of the Crop Reporting Board, the average cost of picking the crop this year is $1.11 per 100 pounds of seed cotton, as compared with $1.27 last year and $1.25 in 1924. Weather conditions have been generally favorable for picking, and up to Nov. 14 loss from storm damage was relatively light. Much of the cotton remaining to be picked is of a low grade.

Rains, high winds and a tornado in Arkansas, Missouri and northern Louisiana during the week ended Nov. 27 did considerable damage to low grade cotton in those sections, ruining a large part of it. It is believed that the storms will stimulate the intention to abandon part of the cotton left in the fields. Cotton in the area was from 75 to 90 per cent picked, however, and the loss was not heavy, owing to low quotations.

High winds also damaged cotton in Oklahoma and Texas, but over the rest of the belt weather was favorable.

KNIT GAITER PLANT WILL RESUME OPERATIONS SOON

Eastern rubber footwear manufacturers are evincing keen interest in the announcement that the old Medford Woolen Company will resume operations shortly for the production of knit gaiters which have a wide sale in conjunction with rubber footwear.

With the winding up of the affairs of this concern in bankruptcy last summer, all independent rubber footwear manufacturers were without a source of supply for the many orders for knit gaiters they had on their books. Richard T. Fisher, factory manager of the old Medford Woolen Company, has assumed the same position with the new company which will be known as the Medford Knit Gaiter Company, Medford, Mass.

Incorporators of the new concern which has $25,000 capital and 1000 no par shares are Ethel Garcelon, Medford; Marie Crosby, Boston; and Margaret M. Moore, Lynn.

Goodyear Sells Rail Stock

The Goodyear Tire & Rubber Co. has sold to Otis & Co. 75,000 shares of common stock of the Akron, Canton & Youngstown Railroad. The stock, which constitutes one-half the capital stock of the railroad, was pledged to the Goodyear company as surety for a loan of $3,000,000 to F. A. Sieberling, president at the time of the company's reorganization in 1921. The stock was offered at public auction Nov. 30 and was knocked down to the brokers for $1,360,000.

Mason to Move Branch

The branch of the Mason Tire & Rubber Co., Kent, Ohio, at Columbus, which distributes products of the company in 35 counties in central, southern and western Ohio, will shortly be moved into larger quarters at 242 North Third St. Norman H. Keeling is branch manager and P. N. Williams is office manager.

LAMBERT TO ENLARGE BARBERTON FACTORY

The Lambert Tire & Rubber Co., Barberton, Ohio, plans to erect a large addition to its present plant early in 1927, according to officials of the company, who added that the factory was far behind orders at the present time. Although no definite announcement regarding the size of the new addition was made, it was intimated that the building would be of substantial proportions, as it involves expenditure of a sum in the neighborhood of $200,000.

Until the addition is erected, it will not be possible for the Lambert Company to add another shift, as such a move would require facilities not now available at the present factory. The addition will enable the company to increase production of both pneumatic and solid tires. Present production is 400 tires a day, with one ten hour shift.

The power plant of the Lambert company which is now operating is said to be one of the most modern in the Akron district. A grade of coal considerably cheaper in price than that necessary for ordinary boilers is ground to a fine powder and delivered to the boilers by air blowers. By this process all of the carbon

The Lambert Power Plant

is consumed and no black smoke is seen issuing from the smoke-stack.

There is no handling of coal, as the loaded cars are set on the side track beside the brick "silo" shown in the picture. Trap doors in the bottom of the cars are then opened, the coal drops into a pit and is automatically carried up and delivered into the "silo," which holds ten carloads. Day and night engineers and firemen, as well as from one to three coal passers, were necessary under former practices, but one man now takes care of the entire plant.

Make Giant Gasket

A rubber gasket 205 feet long and weighing about 1,500 pounds was recently manufactured by the Scougal Tire & Rubber Co., 109 Main St., Seattle, Wash., and has been delivered to the navy yard at Bremerton to be installed in the caisson of the large drydock there. According to M. R. Scougal, the gasket took ten days to manufacture. It was cured in lengths of two feet for a period of 50 minutes under a temperature of 260° steam pressure and a weight pressure of 50 tons.

Dunlop Sells Plantation

The Dunlop Rubber Company, Ltd., Fort Dunlop, Eng., recently sold its Bibile Rubber Estate in Ceylon to the Ceylon Rubber Estates, Ltd., a newly-organized firm. The reason given by Dunlop for the sale was that isolation of the plantation made management more difficult than estates in Malaya. The Bibile plantation has 1,034 acres under rubber, 889 of which are said to be in full bearing.

CHEMICAL & PIGMENT BUYS ST. LOUIS PLANT

The Chemical & Pigment Co., Inc., Baltimore, Md., manufacturers of lithopone, with which is affiliated the Glidden Company, recently purchased the factory and other assets of the St. Louis Lithopone Company, Collinsville, Ill., so that the company would have a central producing and distributing point for its product. The company has other factories at Baltimore, Md., and Oakland, Cal.

Officers and executive personnel of the Chemical & Pigment Co., Inc., which has general offices at Baltimore, are as follows: W. J. O'Brien, president and general manager; H. L. Rhodes, manager of the Baltimore factory; D. S. Grenfell, manager of the Oakland factory; David N. Burruss, Jr., manager of the Collinsville factory; T. H. Zappert, general sales manager; C. V. Bates, district sales manager for the Collinsville plant.

To Open Wholesale Branch

Announcement was recently made by the United States Rubber Company that a wholesale distributing branch would soon be opened at 1032 North Miami Ave., Miami, Fla. The Branch will be under the management of Leo Lindsey. It is said that tire sales in the Miami district for the first nine months of 1926 are more than 20 per cent above the sales for the whole of last year.

FIRESTONE BUYS COTTON AND PLANS TO BUY MORE

Harvey S. Firestone, president of the Firestone Tire & Rubber Co., has announced that his company has bought between 30,000 and 50,000 bales of cotton, comprising all 1927 requirements for the manufacture of tire fabrics. He also said that the company plans to buy about 50 per cent of its 1928 and 1929 needs in the near future.

"In doing this we have been actuated by two motives", Mr. Firestone explained. "First, in buying a commodity below the cost of production, one cannot very well lose money, and he may possibly make money. Our other reason is patriotic. We felt that we should do what we could to relieve the depression in the cotton market."

To Handle Norwalk Line

The Norwalk Tire & Rubber Co., Norwalk, Conn., has appointed the Roger Putman Tire Company, St. Louis, Mo., direct distributor for the St. Louis district. The Roger Putman company makes a specialty of balloon and bus tires.

Gillette to Build Addition

The Gillette Rubber Company, 799 Wisconsin St., Eau Claire, Wis., recently let the contract for a one-story and basement addition to its factory. The addition, which measures 85 by 135 feet, is estimated to cost $60,000, with equipment.

COMMITTEE NEGOTIATES FAVORABLE OCEAN RATES

Through negotiations with the North Atlantic Steamship Conference the Traffic Committee of the Rubber Association of America has obtained a special contract rate on rubber and canvas footwear moving to United Kingdom ports after January 1. The new rate will be 40c, the same as has prevailed during 1926, but the noncontract rate after January 1 will be increased to 50c.

The Committee has also secured a favorable extension of the contract rates on tires and tubes and other rubber goods moving to the same ports. On the former the contract rate has been 25c and the non-contract rate has been 40c. After January 1 these rates will be advanced to 30c and 50c respectively, a smaller percentage of increase being made in the contract rate, likely due to the Committee's efforts. On all other rubber goods the contract rate will be advanced from 40c to 45c. The increases are said to be due to higher shipping costs on account of the British coal strike.

Stevenson Leaves $1,500,000

Lord Stevenson, author of the British rubber restriction plan and managing director of the famous whiskey firm, John Walker & Sons, who died last June at the age of 53, left an estate in excess of $1,568,500. He willed $125,000 to each of his adopted daughters, Marie Suzette Stevenson and Avril Stevenson, the former the child of Belgian refugees and the latter the daughter of Mrs. Stella Johnstone, who became his second wife in 1917.

Attend Traffic Meeting

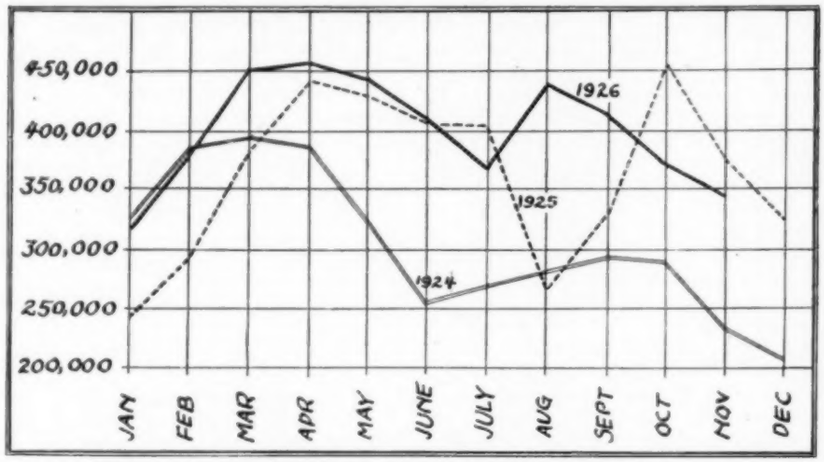
H. J. Zimmerman of the B. F. Goodrich Company, E. C. Knox of the Firestone Tire & Rubber Co., and E. L. Morgan of the Miller Rubber Company were among the Akron representatives who attended the annual meeting in New York of the National Industrial Traffic League.

James E. Norton

James E. Norton, aged 69, of M. Norton & Co., Medford, Mass., dealers in used rubber machinery, scrap rubber and rubber cloth remnants, died Nov. 22 at his residence, 36 Foster's Court, Medford. Mr. Norton, who was well-known in Massachusetts rubber trade circles and also regarded as a mining expert, returned early in October from a trip to his birthplace near Washington. While on his way home he was taken sick.

He entered the rubber business as a young man with his father, M. Norton, and managed the plant he established. In connection with his work for owners of copper, silver, zinc and gold mines, he formerly traveled widely in South America, Europe and Canada, but lately had been confining his business to rubber scrap and used machinery.

The Trend of Automobile Production



This Graph Shows the Trend of Automobile Production in the United States for 1924, 1925 and 1926—See Article on Next Page.

Mr. Norton is survived by a widow, Mrs. Joanna A. Norton; two brothers, Patrick and Michael; and two sisters, Mrs. Delia Mullen and Mrs. Catherine Barry, all of Medford.

TIRE IMPORTS VALUED AT $31,503 IN OCTOBER

According to the Rubber Division, Department of Commerce, 4,382 tires valued at $31,503 were imported into the United States during October. Most of the tires were manufactured in Canada, which shipped 4,245 valued at $29,168. France shipped $1,964 worth of tires, but shipments from Great Britian to the United States were valued at only $173 in October.

VIRGINIA-CAROLINA TO MOVE INTO NEW FACTORY

The new factory building of the Virginia-Carolina Rubber Company, which is being built at the foot of Lewis St. in Richmond, Va., will be completed and ready for occupancy this month, according to C. W. Myers, general manager. Mr. Myers said the new factory, enlargements to the chemical laboratory and offices would cost $60,000 when completed. The new building will be one story high and will cover an area of one block.

The company's factory was destroyed by fire last June, and since that time temporary quarters on North Boulevard in Richmond have been occupied. Tire plasters and various other tire accessories are manufactured.

Nason in Europe

G. H. Nason, export manager of the Hood Rubber Company, Watertown, Mass., sailed on November 30 for Europe where he will visit distributors of Hood products.

CLAY COMPANY ACQUIRES CAROLINA KAOLIN MINE

The United Clay Mines Corporation of Trenton, New Jersey, have recently announced the purchase of a large South Carolina kaolin mine located at Clayville, South Carolina.

The property consists of over 100 acres of fine kaolin land which was developed and has been in operation for a number of years. The mine is located on the Atlantic Coast Line Railroad and is completely equipped for the furnishing of pulverized, crushed and dried, and crude clay which will be marketed to the rubber, paper and pottery industries under the trade name of *Congaree, Columbia, Fairfeld, Sumpter.*

The acquisition of this mine taken in connection with the mines now owned and operated in New Jersey, Maryland, and Florida together with large English imports should enable the United Clay Mines Corporation to offer the trade a thoroughly reliable source of supply.

Converse Declares Dividend

The Converse Rubber Shoe Company, Malden, Mass., recently declared a quarterly dividend of $1.75 a share on the preferred stock. The dividend is payable Dec. 1 to stockholders of record Nov. 15.

Goodrich Promotes Shreve

The B. F. Goodrich Rubber Co., Akron, has appointed George W. Shreve, formerly connected with the St. Louis division, manager of the branch at Houston, Texas. Mr. Shreve succeeds F. A. Meurin, transferred to San Antonio.

J. N. Forsythe has been promoted to chief clerk of the Houston branch; T. H. White has been made credit manager; and E. A. Boyce, city salesman.

Mr. Shreve has been with the Goodrich Company for approximately ten years, the major portion of this period having been spent as manager of the branch at Springfield, Ill.

Financial Items

Rubber and Motors

RECORD CAR OUTPUT EXPECTED FOR YEAR

Although Production of Cars and Trucks Started to Decline Earlier this Year than in Former Years, Output thus Far is Well Ahead of Previous Record.

Although automobile production was curtailed earlier this year than previously, with the output beginning to fall off in August, it is confidently expected in the industry that the year 1926 will set a new record when final passenger car and truck statistics are compiled. It is believed that the figures will be materially higher than those of last year when 3,835,801 passenger cars and 500,470 trucks were produced by the United States and Canada combined.

According to the Department of Commerce, the total production of passenger cars in the United States for the first ten months of 1926 was 3,407,411, comparing very favorably with 3,089,153 manufactured in the corresponding period of 1925. Production of trucks for the same period this year was 428,931, against 1925 figures for the corresponding ten months of 407,828.

Canadian Production High

Production of passenger cars for the first ten months of 1926 in Canada was 151,441, compared with 123,072 in the same period last year, and trucks manufactured in 1926 up to the end of October totaled 38,875, a huge gain over the figure of 18,106 for the corresponding period in 1925.

Combining figures for the United States and Canada, production of passenger cars aggregated 3,418,006, against 1925 ten-month figures of 3,212,225. Trucks manufactured in both this country and the Dominion in the period totaled 436,006, compared with 425,934 produced in the first ten months of 1925.

Based on announced schedules, production in November and December should approximate 500,000 cars in the United States alone, which figure would easily set a new high production record of 3,907,400, compared with 1925 United States passenger car statistics of 3,696,490. In November and December, 1925, 607,337 passenger cars were produced in the United States and 16,239 in Canada.

While automobile production statistics have come to be considered one of the best economic barometers by business men and bankers, for the rubber factory executive they hold a special interest. The rate of manufacture of passenger cars and trucks in the United States and Canada furnishes the rubber manufacturer with an excellent index not only to general business conditions and the market he may expect for his products other than tires, but helps him in arranging future tire and tube production schedules, for he knows from past experience that a heavy automobile production year is usually followed by good business in the rubber industry. For those factories manufacturing tires for original equipment, of course, the automobile production curve is of paramount interest, but executives whose factories do no business direct with automobile manufacturers have also found it advantageous to watch these statistics.

Banner Year Certain

From present indication, the year 1926 will be a banner one from the viewpoint of automobile production. It will be seen by studying the accompanying chart that although production of passenger cars and trucks in this country and Canada began to decline in August from a monthly figure well above 400,000, operations followed 1924 in movement.

The year has been marked by the distribution of $248,935,098 in dividends by General Motors, a sum double the earnings of the Ford company. The latest distribution of $4 a share announced recently aggregates $34,800,000.

Although a good many of the leading automobile manufacturers show an increase in the number of units produced, when compared with 1925 output, only a few show an increase in net earnings. This is believed to be the result of the keenest competition ever experienced in the automotive industry.

Late Stock Prices

	Last Price		1926	
	Dec. 2	Nov. 18	High	Low
Ajax	7½	7¾	16	7½
Faultless	—	40½	43½	34
Firestone	115	117	125	100
do 6% pfd	101½	100¼	103½	99
do 7% pfd.	98	98½	100	96½
Fisk	16¾	16¾	26¼	14
do 1st pfd.	79	79	84¼	76⅞
General	150	145	375	140
do pfd.	110	103¼	110	106
Goodrich	39	47½	70¾	39
do pfd.	96½	96¼	100	95
Goodyear Com.	29	31¼	40	28
do pr pfd.	106½	—	108⅝	105⅜
do pfd.	99	101	109¾	98¼
Hood	46	47	68¾	57½
India	29	29¾	165	29
Intercontinental	14	14	21⅜	13¼
Kelly Springfield	9½	11	21¼	9½
do 1st pfd.	—	—	74½	60
do 8% pfd.	—	—	73¾	44½
Lee	—	—	14	6¾
Miller	33	33	44¾	30
do pfd.	100	100	104	98½
Mohawk	30	30k	65	30
do pfd.	70	74k	80	70
Norwalk	—	4¼	15¼	4¼
Seiberling	21⅝	20¼	28½	19⅛
do pfd.	95	96½	97	92
Star	10	—	15	10
U. S. Rubber	57⅛	59	88¼	50¼
do pfd.	105	106	109	101½
U. S Rubber Reclaiming	12	12	21¼	11
do pfd.	—	—	90	85

NORWALK REPORTS LOSS OF $296,136 FOR YEAR

The Norwalk Tire & Rubber Co., Norwalk, Conn., reports a net loss after depreciation and interest of $296,136 for the fiscal year ended Sept. 30, 1926. Gross profit on sales was $450.178; selling, general and administrative expenses, $628,058, leaving a net operating loss of $177,880, which was reduced by other income of $22,554 to a total loss of $155,326. Cash discount sales of $68,881, depreciation of $48,106 and interest of $21,715 and the loss on sale of equipment amounting to $2,108 resulted in a net loss of $296,136.

The balance sheet as of Sept. 30, 1926, shows current assets of $2,005,240, and current liabilities of $749,787, leaving a net working capital of $1,255,453.

The customary provisions for the sinking fund on the preferred stock were not met because of lack of profits during the fiscal year.

ACCESSORY BUSINESS CONTINUES TO DECLINE

Business of automotive parts and accessory makers, which began a moderate recession in September, showed a further decline in October and November, in line with the general seasonal curtailment of manufacturing operations in the automobile plants, according to the Motor and Accessory Manufacturers Association.

Taking 100 as the index figure for January, 1925, the monthly bulletin of the association shows total parts, accessory, and service equipment wholesale sales for October at an index figure of 123, compared with 147 for September, 152 for August, and 133 for July.

The industry looks for a comparatively quiet period until January first, when the automobile shows and preparation for spring business are expected to speed production and sales.

Seiberling Reports Profits

The Seiberling Rubber Company, Barberton, Ohio, reports for the nine months ended Sept. 30, 1926, a profit of $447,161 after charges. Gross sales for the nine months aggregated $12,853,930. The balance sheet as of Sept. 30 shows current assets of $5,047,630 and current liabilities of $2,199,825.

Move to Larger Quarters

The Overland Trail Tire Sales Co., handling the entire wholesale and retail distribution of products manufactured by the Overland Trail Rubber Co., Omaha, Neb., recently moved to larger quarters at 2060 Farnam St., Omaha. Frank J. Grace is manager.

Personal Items-

The B. F. Goodrich Company, Akron, has appointed W. A. Beadling as branch manager at Baltimore, Md., to succeed W. F. Sheppard who has resigned to conduct a business of his own in another line. Mr. Beadling had been manager of the truck and bus tire department of the branch at Pittsburgh for the last year, and also served the company previous to the war.

* * *

John W. Thomas, vice-president of the Firestone Tire & Rubber Co., was recently elected chairman of the board of directors of Akron University. He succeeds the late Francis M. Cooke. Mr. Thomas has been a director of the university since 1920, and has been with the Firestone company since 1908.

* * *

E. C. Lowney, credit manager of the India Tire & Rubber Co., Akron, has returned to the factory from a six weeks trip to Denver, Kansas City, Chicago and St. Louis.

* * *

Herman Muehlstein, president of H. Muehlstein & Co., Inc., New York, scrap rubber dealers, has agreed to cooperate with the National Farm School in its effort to raise a $5,000,000 endowment fund within the next three years. Mr. Muehlstein believes that industry cannot survive without agriculture, although agriculture needs no assistance for survival, and considers it a privilege to do what he can for the National Farm School, which has for its functions training and sending young persons to the land. He will direct the solicitation of funds in the scrap rubber trade.

* * *

Joseph L. Stevens, who has been with the company since 1919, has been made manager of belting sales by the Goodyear Tire & Rubber Co. Mr. Stevens is a graduate of Ohio State University and the Carnegie Institute of Technology.

* * *

P. V. L. Bouton, who was formerly connected with C. A. Morse & Co., New York, crude rubber brokers, became associated with the crude rubber brokerage firm of Henderson Brothers & Co., Inc., 60 Beaver St., New York, on Dec. 1.

* * *

George Perkins Raymond son of G. B. Raymond, vice-president of the B. F. Goodrich Company, Akron, appeared as a soloist with the Cincinnati Symphony Orchestra at the Akron Armory on Sunday afternoon, Nov. 21. Mr. Perkins is rapidly gaining fame as a tenor, and his program for the season calls for recitals in Washington, Baltimore, New York, St. Louis, Cincinnati and a number of other cities.

* * *

H. L. Arbogast, recently a chemist in the employment of the Kelly-Springfield Tire Company, has joined the sales department of the R. T. Vanderbilt Company, New York.

* * *

Maurice Bathiat recently arrived in the United States to go the factory of the Michelin Tire Company at Milltown, N. J. He has been a chemist at the Michelin factory in Clermont-Ferrand, France. It is understood that M. Chabert, at present a chemist at the Milltown factory, will shortly leave for the French Michelin plant.

* * *

W. W. Sigler, a member of the sales staff of the Akron Standard Mold Company recently spent several days in Cleveland attending the Foreign Trade Conference held there in the Chamber of Commerce offices.

IT PAYS TO MICRONIZE

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NOTHING is quite so exasperating to the careful maker of quality rubber footwear as to find that the soles are outlasting the uppers.

This condition can be met and completely corrected by the inclusion in the upper stock of the requisite percentage of

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CATALPO!

REPORTS HEVEA TREES YIELD WELL IN HAITI

Annual Report of Secretary of Agriculture Says Haitien Yield Equals East, But Fails to Encourage Rubber Culture Generally in Tropical America.

The two pages devoted to rubber in the annual report of the Secretary of Agriculture, which has just been made public, contain little encouragement for those Americans who have hoped for the establishment of rubber plantations in tropical America or even in the southern part of the United States.

During the past year, the Secretary states, experiments have been made with various rubber plants in the United States, Haiti and Panama, but with one exception no conclusive results are reported. That exception concerns the tapping of mature Hevea rubber trees in northern Haiti and the checking of yields. The fact that the trees are growing 19 degrees north of the equator has lent great interest to the tapping experiments and the following paragraphs accordingly stand out in the Secretary's statement:

"The tapping of mature Hevea trees in Haiti has been carried into the second year with yields distinctly larger than at the corresponding periods in the first season. Compared with records of individual trees in Ceylon and elsewhere in the East Indies, the range of variation is much the same and also the average production per tree. Thus there is no question of the feasibility of commercial production of rubber in Haiti, if a suitable system can be established. A small shipment of the crude rubber was sold in New York at the full market price of East Indian rubber."

The Department's investigators apparently feel that there is little question about the agricultural suitability of many parts of tropical America for rubber growing but foresee difficulties in certain commercial aspects of the problem. In this regard the Secretary makes the following comment:

"Large areas of land now of little value in tropical America may be utilized for the production of Hevea rubber if suitable methods can be devised. Experiments to determine such possibilities are being made in numerous localities in the Canal Zone and in neighboring districts of the Republic of Panama, as well as in Haiti and southern Florida. On account of different conditions in tropical America, the methods that are used on large plantations in the East Indies have not appeared practicable, but other methods may be developed which will make production possible without contract labor and also avoid the large initial outlay and overhead charges of the East Indian plantation system.

"Careful experiments are needed to show the range of conditions under which it is possible for the trees to grow and to produce rubber, and to demonstrate a practical method for bringing the trees through the early stages of the development with the smallest requirements of labor and expense. The first result of these experiments is to show that the range of adaptation of Hevea is much wider than has been supposed.

"Experiments with Hevea and other rubber producing plants are going forward in Haiti, in the Canal Zone and in the Republic of Panama. Seeds and young plants of Hevea from Haiti were taken to Panama, and are being tested in different localities".

With regard to experiments in cultivating rubber producing plants in the United States, the Secretary states that the Department has introduced many species on its Florida farm, some of which grow well but none of which rank with Hevea at the present time. Rubber plants that are natives of dry regions are being tested in California, in the coast districts as well as in interior valleys. Special attention is being given to one of the native species of milkweed *(Asclepias subulata)*, which appears to be the most promising for waste lands and for producing the largest quantity of rubber-bearing material readily and cheaply."

CATALPO!

The Philadelphia Rubber Works Company

Manufacturer of

RECLAIMED RUBBER

of

STANDARDIZED QUALITY

NEW YORK
52 Vanderbilt Ave.

AKRON, OHIO PHILADELPHIA, PA.
Land Title Bldg.

PLAN TO MANUFACTURE CARBON BLACK IN UTAH

The Crystal Carbon Company, a subsidiary of the United Carbon Company, has leased 2,560 acres of land in the Cisco Dome gas field, Grand County, Utah, and contemplates the erection of a plant for the manufacture of carbon black. The gas discovered in that field about two years ago is particularly adaptable to the production of carbon black, it is said.

The lease is on a royalty basis, 640 acres being used on a flat royalty of five per cent and 1,920 acres being paid for on a sliding scale of 12½ to 33½ per cent. The lease provides that the gas may be used for the manufacture of carbon black on condition that modern and improved methods are employed, and on condition that if after 10 years the Secretary of the Interior finds a demand for the gas for domestic or industrial purposes, the lessee shall be required to supply the gas to pipe-line connections.

It is further provided in the lease that where the gasoline content is more than one-half gallon per 1,000 cubic feet, the gasoline shall be extracted, and a royalty paid to the government on all gasoline produced.

Falls Selling New Flap

The Falls Rubber Company, Cuyahoga Falls, Ohio, is marketing a new all rubber tire flap named "Never Pinch".

DIVERSITY

HUBER Carbon Black plants are located in three states — Louisiana, Texas and Wyoming.

This is a real protection against manufacturing or shipping emergencies at any one point.

J. M. HUBER, INC.
CARBON BLACKS ⤷ CLAYS ⤷ DRY COLORS
130 West 42nd St., New York City

Branches in Principal Cities in U. S. and Foreign Countries

HARTZ-MASON FACTORY TO OPEN THIS MONTH

Construction of the new factory of the Hartz-Mason Rubber Manufacturing Company, recently incorporated, has been completed and the machinery is now being installed preparatory to the commencement of operations this month.

The building is a one-story structure, built of concrete, steel, and brick, and is located at 270 Pleasant Street, Watertown, Mass. The company will engage in the manufacture of a general line of automobile top materials, raincoat fabrics, hospital sheetings, and general proofing for the trade.

The president of the organization, John C. Haartz, was founder and former head of the J. C. Haartz Company of New Haven, Conn. and is now president of the Haartz Auto Fabric Company, Cambridge, Mass. J. H. Mason, treasurer and general manager, has been in the rubber field for the last fifteen years, during the last five years as general manager of the Vulcan Proofing Co., Brooklyn, N. Y., his previous connections also including work with the Duratex Co., Newark, N. J., and the Plymouth Rubber Co of Canton, Mass.

OHIO RUBBER COMPANY AWARDS NEW CONTRACT

The Ohio Rubber & Textile Company, Willoughby, Ohio, recently awarded a contract to The Austin Company, Cleveland, for the design and construction of one story addition, 90 by 160 ft., which will adjoin a new warehouse which is almost completed. Over 100 tons of structural steel have been shipped from the Austin Mill at Euclid Village, Ohio, to be used in the new building. Without equipment, it will cost in the neighborhood of $100,000.

The Ohio Rubber & Textile Company has been operating 24 hours a day for the past year. The company was established in 1879. Henry Hallock is president. It maintains branch offices in Detroit, Cincinnati, Toledo and Cleveland.

Rubber Association Dinner

The annual banquet of the Rubber Association of America will be held on January 10 at the Hotel Commodore, New York City. No announcement has been made with regard to the speakers or other entertainment for the guests. The members of the Association's banquet committee are E. H. Broadwell of the Fisk Rubber Co., W. F. Pfeiffer of the Miller Rubber Co., and E. H. Germain of the Dunlop Tire and Rubber Corporation of Buffalo.

CATALPO!

PHILIPPINE RUBBER PLAN WINS APPROVAL

Suggestion of Quincy Tucker of Boston for Getting Around Land Law Limits in Establishing Rubber Plantation in Islands is Approved by Attorneys.

A plan suggested by Quincy Tucker of Boston for large scale rubber planting in the Philippine Islands without changing the existing land laws has been reviewed by Fisher, Dewitt, Perkins and Brady, prominent Manila attorneys, and declared sound.

Briefly expressed, Mr. Tucker's plan, which was first advanced by him about one year ago, is for numerous American companies, perhaps as many as 100 and embracing the rubber, automotive and oil industries, to acquire 2,500 acres each of Philippine rubber land, the maximum allowed by present laws, and then place the plantations under one central agency for management and development. This plan, it will be seen, is one of consolidated management instead of ownership. All the advantages of large scale operations would be retained without transgressing the existing laws and thereby incurring the danger of suits and eventual dispossession.

"As far as we can see," Fisher, Dewitt, Perkins and Brady state in their written opinion to Mr. Tucker, "your plan of having one visiting agent or manager for some 100 independent agricultural corporations, each taking out the maximum area permitted under the law, would not violate the land laws applicable to the Philippine Islands as long as such visiting agent would manage each of the plantations under the direction and control of its board of directors, and as long as the financing of each of the plantations is handled by the owner thereof.

"Your suggestion reaches the heart of the problem," the attorneys' letter states. "The problem has always been presented to us from quite another angle—that is, owners of large capital have sought to secure centralized control of an area greater than that permitted by law, so that, in effect, the real ownership of these areas would be in their hands. We can think of no way whereby that can be safely accomplished. Under your method, subject to the modification above indicated, the ownership and control would be in independent corporations. Of course as you will see in the enclosed pamphlet, no shareholder in any of the corporations can be a shareholder in any of the other corporations."

It is not known how this plan of limited, independent ownership and centralized management will be received by American companies interested in the solution of the problem of an ample rubber supply for the expanding American rubber and automotive industries. When the plan was first suggested about one year ago it aroused no interest.

The plan to which the attorneys refer as having been rejected in the past was to have one large company or one large group acquire up to 50,000 acres of land through the formation of numerous subsidiary companies, none of which would hold more than 2,500 acres. It was decided that this would merely be camouflaged common ownership and could not be expected to withstand legal action.

WISHNICK-TUMPEER, INC. OPENS NEW LABORATORY

Wishnick-Tumpeer, Inc., 251 Front St., New York, has announced the opening of a technical department, with a complete rubber laboratory. As an added service, the company offers the use of the laboratory in solving problems of individual factories. The department is in charge of J. M. Dawson, formerly connected with the Dunlop Rubber Company.

The company intends to keep a close check on sources of supply so as to assure its customers of uniformity in the various pigments sold, and the laboratory undoubtedly will be a great help in maintaining this uniformity.

CATALPO!

THE NAUGATUCK CHEMICAL COMPANY
Materials for the Rubber Goods Manufacturer
NEW YORK

THE products listed below are being furnished regularly to the manufacturers of rubber goods. This large number of active materials shows the close attention given to the needs and interests of the Rubber Trade.

HEPTENE	—Accelerator for tubes, tire carcass, rubber bands, and pure gum goods generally.
MONEX	—Ultra-accelerator for general use.
TRIMENE BASE	—Accelerator for tire treads, footwear, and rubberized sheetings.
TRIMENE	—Accelerator made to replace HEXA.
CRYLENE	—Accelerator for hard rubber goods, and cheap black mechanicals. Made in two forms—the hard resinous, and the paste.
LITHEX	—Co-accelerator for use with litharge in all types of goods.
VGB	—Antioxidant for rubber, balata, gutta, guayule, and reclaim.
ZBX	—Zincbutylxanthate accelerator for use with various amines in making stocks and cements to vulcanize at room temperature or above.
MINERAL FLOUR	—Florida clay, the highest reinforcing clay available.
LABELS	—All-rubber two-color brands for tires, hose, belts, etc.
LATEX	—Normal consistency, and in concentrations up to 80% rubber content.
LOTOL	—Modified latex products for many uses. Penetrating, adhesive, and spreading.

THE NAUGATUCK CHEMICAL CO.
1790 Broadway New York City

New Equipment for Rubber Factories

IMPROVED SCOTT TESTING APPARATUS

Several improvements on rubber tensile testing apparatus and a new model of an abrasion test machine have just been announced to the industry by the Henry L. Scott Company, Providence, R. I. The improvements on the tensile testing apparatus consist of (1) a new arrangement of gears permitting the instantaneous return of the lower clamp to its starting position after the rubber sample under test has been broken; (2) improved flat types of recording; (3) a new method of recording data points by means of holes burnt through the paper by electric sparks. The abrasion tester, on the other hand, is a new machine which was developed in the laboratories of the U. S. Rubber Company, and released to the industry through the Scott Company.

The new arrangement of gearing on the tensile tester which allows for the automatic instantaneous return of the lower clamp after a test is said to more than double the efficiency of the apparatus. The machine is now equipped also with the flat plate type of recorder for the data points from which stress strain diagrams are drawn. The head of the machine can be adjusted to compensate for the varying thicknesses of specimens, and there has been invented for use in connection with this machine a quick, simple arrangement for progressing the stress strain diagram in terms of tensile per square inch.

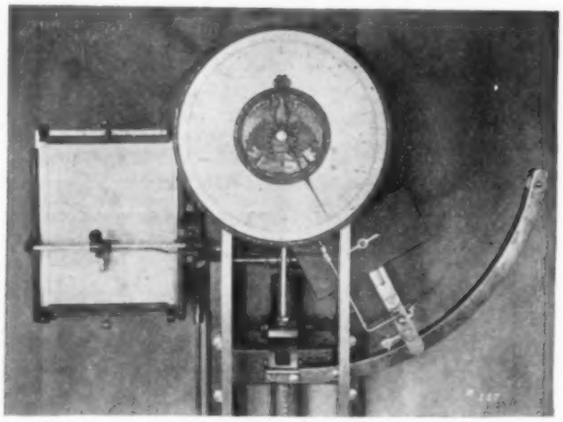


Fig. 1—(Left) The Scott Tensile Tester Complete.
Fig. 2—(Above) Close-up of Head and Recording Plate.

Referring to the illustrations, Fig. 1 shows the machine complete. Fig. 2 is a close-up view showing the head arranged to compensate for varying gauge of the sample, and also the arrangement of the recorder clearly defining this operation. Fig. 3 shows the reverse of the record sheet revealing the data points which are taken by the electric jump spark method, by which holes are burned through the paper. After a series of tests have been made and these points taken by the operator, the sheet is removed from the machine, and an average of these points taken to the proper place on the ruled diagram as shown on the reverse side. These points are then connected by the line which constitutes the stress strain curve in tensile per square inch of the rubber stock.

Advantages of this method briefly are, (1) ease of averaging tests of many samples in one line, (2) no possibility of misreading the graph, (3) original record may be preserved, (4) record sheet is of standard filing size, 8½ x 11″, (5) number of tests made in any period of time can be increased, and (6) no assembling of results is necessary.

In addition, this new model of the tensile testing machine is now equipped with a gear chain pulling of the draw bar, thus overcoming the necessity of providing room below the machine for the movement of this member. The new arrangement of the pointers for following the stretch marks on the samples are a big convenience from the operation standpoint.

The abrasion tester was developed in the laboratories of the U. S. Rubber Company after much experimentation and is said to give tests which closely approximate the wear of stocks in actual use. It can be used to test flooring, treads, belt covers, heels and other similar stocks. It is small and easily installed. Its weight is about 365 pounds and it is 29″ x 23″ on the base and 22″ high.

The principle of the machine is essentially the grinding away of the rubber by means of a wheel covered on its periphery with abrasive cloth. The samples are held in a table, which passes below the wheel, the wheel being revolved in a counter direction to the movement of the table. Arrangements are made for reversing the direction of the table after the last sample has passed under the wheel, and for changing the direction of rotation of the wheel at the same time. The wheel, which may also be lifted from each sample as it passes to the next, is at all times kept clear of any accumulated dust by a powerful exhaust fan.

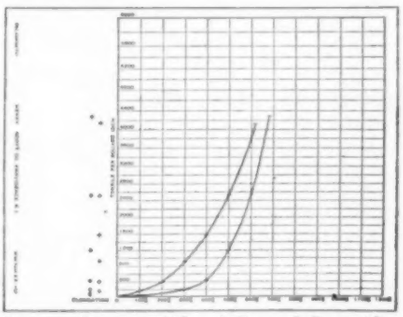
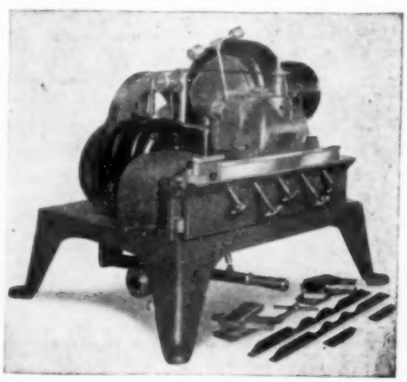


Fig. 3—Reverse Side of Record Data Sheet Showing the Data Points. Burnt Through from the Obverse Side. These Points are Averaged by Means of the Graph as Shown.

Several samples can be tested at one time, with readings taken in loss of gauge or loss of weight. The test is quick, usually thirty minutes being sufficient. The samples are held by clamps on the table of the machine, and are quickly interchangeable. The abrasive cloth on the wheel is also readily changed, so that a new strip can be used with every set of samples.

The abrasion tester is a small, complete, compact unit, and requires no further installation than fastening to the bench and making the electric connections. Two motors are used, one for the exhaust blower and one for operating the other mechanical parts of the machine. It is quiet in operation and is covered so that there is no danger to the operator.



Scott Abrasion Machine

New Factory Equipment

JOHNSON FRICTION CLUTCH FOR RUBBER MACHINERY

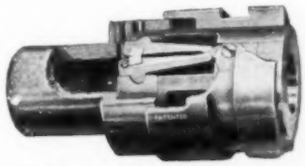
Two types of friction clutches suitable for power transmission use on various rubber machines are shown in the accompanying illustrations. The single clutch is used for power transmission in one direction only and can be applied to overhead lineshafts and countershafts; for the starting and stopping of the main drive of machines, eliminating tight and loose pulleys; for starting and stopping main drives on high-speed machines, with the addition of a brake; for connecting a motor shaft directly to the driving shaft.

The double clutch is used as a part of machines for reversing different motions, as, for example, in tapping attachments and in the feed movements of automatic machinery, as well as for reversing the main spindles in any type of machine tool where such action is required.

A double clutch may also be used as a cut-off coupling at one end and for throwing in and out the feed at the other end.

By the use of combination units, as for example, a combination of a single and a double clutch, it is possible to obtain control of still more complicated machinery. Some machine tools are provided with as many as eight friction clutches for the control of different speeds, feeds and reversing mechanisms.

These friction clutches are manufactured by the Carlyle Johnson Machine Company, Manchester, Conn.



The Single Clutch, Showing Working Parts

The Double Clutch Exterior

MANLEY 60-TON PRESS IS EASILY OPERATED

It is claimed by the Manley Manufacturing Company, York, Pa., that until it brought out its 60-ton Hydraulic Solid Tire Press, it was impossible to obtain a press of such a tonnage that was not slow and clumsy. The Manley press is said to possess all the quick-operating features of the lighter presses, combined with tremendous power, and it can be used to advantage for either light or exceptionally heavy work. It has two pumps, one for fast and moderately heavy pressure and the other for extremely heavy pressure. The table is winch operated, and the press has open side construction, spinning hand wheel, sensitive rack and pinion and test centers. The hand wheel and contract screw is suspended on ball bearings which, when spun, move the screw to or from the work very rapidly.

When very heavy pressures are needed, the hydraulic principle is universally used, for frictional loss is almost entirely eliminated. Both speed and power may be obtained in a hydraulic press, because when the desired pressure has been obtained, it is only necessary to open the release valve and the pressure is instantly released. The plunger returns to position automatically.

The test centers applied directly to the Manley Press are efficient devices for testing purposes. If the straightening is done under the screw, these test centers allowing testing for accuracy without lost motion. The Manley 60-ton press weighs 1,400 lbs., is 7 feet high and occupies a floor space 36 by 63 inches.

Fisk Assigned Patents

The Fisk Rubber Company, Chicopee Falls, Mass., has been assigned six United States patents by Thomas Midgeley, the inventor. These patents are as follows:

1,603,855.	Method and Machine for Making Cord Tires.
1,603,856.	Method of Forming Tires.
1,603,857.	Method for Building a Succession of Laminated Articles.
1,603,858.	Cord-Tire Building.
1,603,859.	Device for Cutting Circumferentially-Arranged Material.
1,603,860.	Cord-Tire Building.

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MISCELLANEOUS

MANUFACTURER'S AGENT

Chemical company wishes to act as manufacturer's agent in selling materials to rubber and tire companies. It is well established and doing large business at present time. Box 446, THE RUBBER AGE.

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SOLE PRODUCERS OF PURE **ASBESTINE** SPECIALLY PREPARED FOR USE IN RUBBER
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BRIGHT RED OXIDE

Direct from our Works
An "All-American" Industry
For the Buyer who has talked
"Unalterably opposed to anything foreign"
and welcomes
Another satisfactory source of supply

Let us show you actual vulcanized results from Our own Rubber Laboratory that you can use our oxide to advantage in

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Barytes
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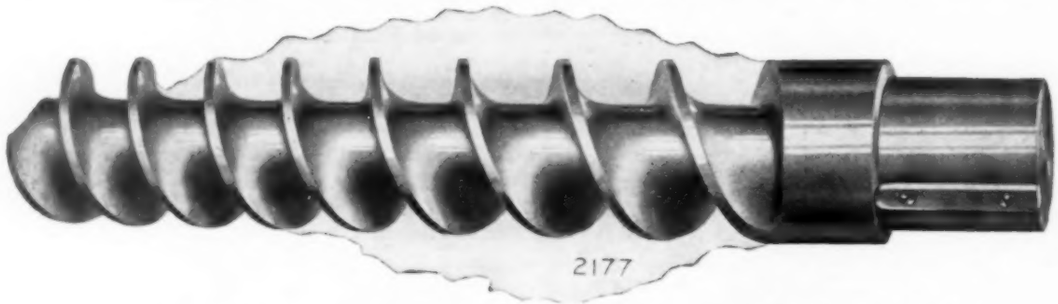
Blues (Misc.)
Browns (Misc.)
Carbon Tetrachloride
Carbon Bisulphide
Carbon Black
Caustic Soda
Clays
Chromium Oxide
Diphenylguanidine
Fossil Flour
Green (Misc.)
Hydro Carbon
Infusorial Earth
Indian Red
Lamp Black
Lead Oleate
Lime
Litharge
Lead—Red
Lithopone
Magnesia
Mica
Montan Wax
Ochre
Palm Oil
Pine Tar
Pine Pitch
Pitch—Burgundy
Reds (Misc.)
Red Oxide
Rosin Oil
Rubberite Compound
Soap Bark
Soapstone
Stearic Acid
Sulphur
Talc
Thiocarbanilid
Titanium White
Ultramarine Blue
Vermilion
Venetian Red
White Lead
Whites (Misc.)
Whiting
Wood Flour
Yellows (Misc.)
Zinc Oxide

The Royle Tubing Machine Stock Screw



THOSE deeply milled flutes mean large production. Wide at the throat—progressively narrower toward the die. The effect of this decreasing pitch is a rapid intake of stock, increasing compactness, and rapid ejection at high die pressure.

Just one of the reasons why a Royle Tubing Machine makes more product, with no more labor cost.

"Profits in business depend largely upon efficient machinery."

JOHN ROYLE & SONS, Paterson, N. J.

EDITORIAL COMMENT

Progress

IN COMMON with American industries generally, the rubber industry will read with pleasure the statement of Secretary Hoover in his annual report that the fiscal year 1925-26 was one never surpassed in the nation's history in the volume of production and consumption, in the physical quantity of exports and imports and in the rate of wages. Progress has also been made in other important directions so that the country has been able to maintain the highest standard of living in its history.

The few points where conditions were less satisfactory, the Secretary states, include the New England textile industry, two or three sections of the agricultural industry, and the bituminous coal industry. Had he gone into still greater detail, Mr. Hoover would have had to place the rubber industry in the period under review somewhere between the highly prosperous and the stricken. The first half of the fiscal year was eminently satisfactory. It was recognized, however, that provision was merely being made against leaner days to come. Those days arrived in the second half of the fiscal year which was marked by inventory losses and slow sales. For the entire twelve-month period, the rubber industry was likely no more prosperous than the average of all American industries.

The Secretary very logically comments on the considerable development in motor truck and motor bus transportation during the year. This is taken to indicate a growing comprehension by transportation companies that the motor vehicle is a cooperative rather than a competitive factor. Over 50 railroads in the United States and Canada are now using motor trucks to supplement their shipping service; nearly as many more are availing themselves of the motor bus. One of the largest railroads has replaced local freight trains on 1,000 miles of line and is serving 500 stations with the motor truck. Developments such as these, in the Secretary's opinion, warrant increasing attention to the possibilities of the use of the motor vehicle as an adjunct to other forms of transportation. From this opinion the rubber industry would be one of the last to dissent, being concerned with the important tire market created by heavy busses and trucks.

Speculation

THE EXTENT of the rubber speculation in London last year when the price raced up to more than $1.20 is revealed in the statement of a British rubber broker who has computed that the turnover of rubber in London alone during 1925 was equal to 700,000 tons. This computation, the broker suggests, is a 'significant pointer to the enormous volume of paper transactions that took place when considered with the fact that the whole world's production for the year barely exceeded 500 000 tons and that the London figure excludes the direct dealings between America and the Far East.

That last year's abnormal advance in the price of crude rubber was due to a large extent to the activity of outsiders is generally admitted. But their interference in the market, to the grief of the consumer and without gain to the producer, was in reality predicated upon a prior and greater interference with the production of the material itself. The Stevenson legislation having cut down the supply, the speculator rushed into the market to seize a part of what was available; the Scheme having operated to allow greater exports from the producing regions, the speculator rushed out again and prices curved downward about as rapidly as they had increased. Thus the legitimate trader who faced the necessity of covering his requirements in advance, found himself the victim of the double interference.

The broker referred to expresses his belief that speculative operations in the long run do not affect the average price of any commodity since such transactions do not add to or detract from the available supplies. It is perhaps true that the average price in a speculative market would not differ from that in one where speculation was largely absent. The consumer of such a commodity as rubber is not concerned so much, however, with the average price as he is with a stable price. All factors which promote wide fluctuations are regrettable, whether they arise from the action of nations or of persons.

Legislation

RUBBER MANUFACTURERS will apparently have no unusual interest in the session of Congress now beginning its deliberations. The subjects likely to come before the law makers during their brief assembly will not affect this industry specifically.

Certain companies will no doubt watch closely any attempt to render Philippine conditions more favorable for the establishment of a plantation rubber industry there. Congress will have Carmi Thompson's report and the Bacon bill for separating the southern islands from the Manila government is already pending. The prospects of drastic legislation in relation to the Philippines are not good.

It is not expected that the Congressional investigation of the crude rubber and other monopolies will be revived although the committee finished its report last spring with a warning that the question would be reopened if developments seemed to warrant it. Rubber prices have been declining however and no further action is probable.

The excise tax situation on tires having been corrected at the last session, the tire makers will not have to worry particularly about tax legislation. They will of course be interested in the proposal that a similar tax on automobiles should be removed. There seems at the moment to be a question if tax legislation of any sort can be passed at the current session, but if the subject is taken up actively there is a good chance for the automobile industry to get relief. A system of control for inter-state bus and motor truck lines may be devised, and will bear watching by car and tire makers alike.

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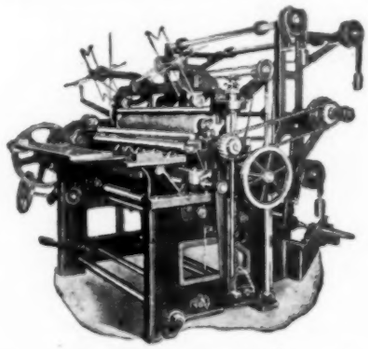

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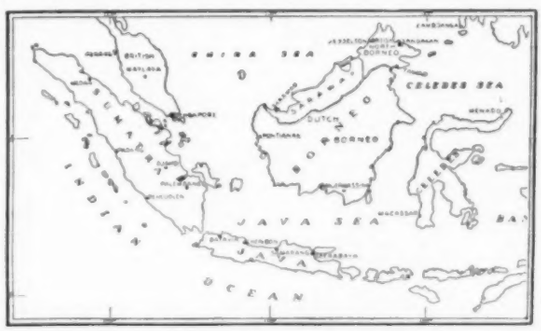
Rubber Plantation Possibilities in British North Borneo

Several Important Factors Appear Favorable To Extending the Rubber Acreage in That Territory

By D. M. Matthews,
Forester, Tropical Plant Research Foundation

The generally accepted fact that the potential rubber production of the world must soon be increased through new rubber planting lends immediate interest to authentic reports about territory suitable for the purpose. During the Crude Rubber Survey of the Department of Commerce only superficial attention could be given to certain areas. The investigators assigned to the Philippines paid only a brief visit to British North Borneo. The author of the article presented herewith served in the territory for several years as Conservator of Forests. During his service in that position he was active in locating many of the rubber plantations and made a close study of the commercial side of their progress, the gist of which he presents in this article. Land suitable for rubber culture is abundant.

BRITISH NORTH BORNEO is one of the smaller political divisions of the Middle East and one that has been inconspicuous in world commerce. Partly for this reason it offers some of the largest continuous blocks of accessible land suitable for rubber planting in that part of the world. The territory has a total area of something over 30,000 square miles. It comprises the northern portion of the Island of Borneo reaching up to within a few miles of the southern islands of the Philippine Archipelago.



British North Borneo occupies the northern tip of the island of Borneo. The Philippines are nearby.

Politically British North Borneo is a British Protectorate administered and governed as an independent State by the British North Borneo Chartered Company. This is the last survivor of the British Chartered Companies of which Rhodesia and the old Hudson's Bay Company were examples. The Chartered Company, through their Court of Directors in London, appoints its own Governor and other officials for the administration of the territory under its control, passes laws and in general governs the country independently of the British Colonial Office, although such administration is always subject to the approval of His Majesty's Government.

This form of administration has always proved satisfactory up to a point and has only been superseded elsewhere by direct colonial administration as and when increasing population and the needs of commerce required. It has been in effect in Borneo since 1882 and, as the population is only about 260,000 and the colony until recently has been somewhat off the main trade routes, development has not been rapid enough to warrant its transfer to the status of a Crown Colony. Lack of funds for governmental expenditure has been a factor in delaying the exploitation of the potentially rich resources of land and timber. In other words, although an efficient and just governmental administration exists, Borneo has considerably more of a future than a past and offers, as few other colonies do, attractive opportunities for extensive agricultural development.

The western portion of the territory is mountainous with spurs of the ranges extending to within a few miles of the coast. Much of the original forest cover has been removed and no great area of land is available for planting which has not in the past been, or is not now, subject to soil wash.

The reverse is the case on the north and east coasts where broad alluvial plains extend for miles inland up the valleys of streams which are navigable for sea-going launches for considerable distances. These valleys are separated by extensive areas of rolling land which, except near the headwaters of streams, rarely attain elevations of over 500 feet. The bottom land near the larger streams is subject to short periods of flood during the rainy season but these floodable areas are narrow. The rolling bench land between the main drainage systems at most points within 25 miles of the coast is excellent planting land and not subject to flood or wash. The soil is a deep sandy loam grading into heavy clay in places. Large areas running up to tens of thousands of acres present uniform soil characteristics—a deep silty loam with no rock outcrops and no loose rock in the surface layers.

The climate does not vary materially from that which characterizes the whole of the Middle East in low latitudes. It is a healthy one and of the type suitable to the best development of rubber. Mean daily maxima and minima of temperature are 87°F. and 72°F. respectively. The rainfall varies considerably as between points on the two coasts but is fairly uniform on the east coast. Here it ranges from 74 inches at Tawao in the extreme southeast to 120 inches at Sandakan on the northeast. The relatively low rainfall at Tawao is very well distributed there being no pronounced dry month in the year. The monthly range at Sandakan is greater with precipitation reaching 20 inches a month in November, December and January and a low of around 5 inches in March or April. Morning rains, which interfere with tapping, are unusual anywhere except for short periods at the height of the rainy season. Borneo is outside the typhoon belt and severe wind storms are practically unknown.

Land communication within the State, especially on the east coast, is almost lacking. A narrow guage railway runs from Jesselton on the west coast southwest to Tenom. It was unfortunate for the development of the country that the one railway was so located for it parallels the coast and does not tap any large area of good land. Further, its presence has induced rubber planting in relatively unsatisfactory lo-

cations leaving the large fertile areas on the other coast practically untouched.

A metaled road extends sixteen miles northwest from Sandakan but otherwise transport on the east coast is chiefly by sea and river. This is not as much of a drawback as it might appear for many of the better areas of plantable land are readily accessible from Sandakan and other points on the coast by launch and the existence of land transport is not necessary to cheap development.

A regular weekly steamer service is maintained from Sandakan and other coast ports to Singapore, a distance of 1,300 miles. There are frequent sailings from Sandakan to Hongkong, which is at about the same distance as Singapore, and a fairly regular monthly service to Manila and Australia. A local weekly steamer service is maintained from Sandakan to all coast points. Cable service is excellent, being supplied by the Eastern Extension Cable Company and distributed throughout the State by government wireless stations.

The first genuine attempt at rubber planting in Borneo was in 1900 when seeds were brought by the government from Ceylon and planted at Tenom on the west coast. Later special inducements on the part of the government stimulated considerable planting and since 1909 there has been a steady, although not large, development of the plantation rubber industry. At the end of 1923 European-owned estates totaled an area of 203,508 acres of which 52,952 acres were planted to rubber. Chinese and native plantings amounted to 9,361 acres and total 1923 crop was 7,381,137 pounds. Many of the earlier plantings during the boom years were unforunately located, as much more attention was paid to ease of opening and transport than to the character of the soil and topography. These early estates are not now being extended and such additional planting as has been put in during the last few years has been on carefully selected land on the east coast.

Tree development and rubber production is generally good and, on the better located estates, is quite the equal of the best estates in Malaya. Most of the diseases common to rubber planting are to be found but never in concentrated or virulent development. The country taken as a whole is freer from disease than Malaya and Sumatra. This is possibly partly due to the more isolated nature of the planting on non-contiguous estates but nevertheless disease, as a menace to the industry, cannot be said to exist.

Considering the small population, it is not to be expected that any local labor would be available for extensive planting operations. However, this condition is common to all countries where large planting areas are still available. By official arrangement with the Netherlands India Government, Javanese may be imported for two-year contract periods. There is also a steady importation of free and contract Chinese and some labor finds its way to the Colony from Singapore. Cost of importation varies from $55 to $70 per head when recruited in small numbers. Recruiting on a large scale could be accomplished much more effectively and cheaply than hitherto.

Chinese and Javanese are tractable, their health in the country is good and they work well together and without friction with the local natives. The prevailing wage is from $7 to $9 per month. With recruiting charges and wastage figured in this amounts to from 30 to 35 cents per day.

While it is more difficult for the smaller estates in Borneo to keep their labor requirements at normal than it is for similar estates in Malaya and Sumatra there should be no difficulty for a large and well organized company to bring in good labor in sufficient quantities to meet the needs of extensive plantation work. Initial arrivals would not be as prompt as in countries where highly developed machinery for importation already exists but basicly there is nothing in the way of obtaining adequate supplies.

The acquisition of land for agricultural purposes is by lease for 99 years. There is no premium and rents are low. The published terms are as follows:

Premium	nil
Annual rent for the first six years	nil
Annual rent for the next four year	28 cents per acre
Annual rent thereafter	$1.68 per acre

These terms apply particularly to areas of up to 640 acres application for which can be acted upon directly by the Governor. Presumably the terms apply equally to areas in excess of 640 acres but applications for the larger areas have to be acted upon by the Court of Directors in London. The Court is very anxious to promote further development of the country and it is very probable that applications for large areas for immediate development would receive special consideration. Very liberal terms might be expected in the event of the application being for exceptionally large areas by responsible parties and sympathetic and efficient co-operation on the part of Government in promoting development would be certain.

Taking everything into consideration, and especially from the standpoint of large areas of accessible rubber land of first quality, British North Borneo offers exceptional attractions to the prospective rubber planter. On the east coast there are several millions of acres to choose from. Within this extensive area lie several large tracts over which land examination surveys have been run by the Forest and Agricultural Department of the Colony and for which detailed maps and specific data are available. One especially desirable area extends from Sandakan Bay westward across the

[Concluded on Page 244]

Typical rolling bench land of the East Coast, B.N.B. Land has been cleared by logging operations. A temporary hospital is seen. The view to the right shows a railway grade for logging operations on potential rubber land

Rubber Lining for Dredge Pipes

Discovery of Engineer in Malayan Tin Mine May Lead to Extensive Use of Crude Rubber in Dredging Operations

By A. C. Blackall

THE ASTOUNDING ability of crude rubber to withstand the abrasive action of gravel, sand and similar materials has been responsible for the development of an important new use for it in Malaya, where enormous quantities of rubber are produced. Crude rubber direct from the plantation factories is used to line the dredge pipes of tin dredges. Since Malaya is as well-known for its tin production as for its rubber crop, the new use has undergone a thorough test. Its success is interesting on account of the possibilities it opens up for the use of crude rubber in dredges in other countries also.

T. M. Kinnear, engineer to the Sungei Besi Mines, Ltd., near Kuala Lumpur, F.M.S., has announced that three rubber lined pipes each of 9 inches internal diameter and length of about 20 feet have been in continuous operation on the discharge line from an 8-inch gravel pump at the Sungei Besi Mines for a period ranging from 18 months from the date of installation of the first pipe. These pipes have been subjected to a continuous flow of gravel, amounting to about 17,000 cubic yards of solids per month, and a working pressure of about 17 lbs. per square inch.

Rubber Outwears Steel

The three pipes, although differing somewhat in design, are all alike regarding the successful results of the rubber applied to them, there being little or no evidence of wear or abrasion on the rubber after this lengthy period of operation. The life of a lap-welded mild steel pipe 5/16-inch thick on the same line, with frequent turning to insure even wear, does not amount to an average of seven months.

The first pipe, which was installed on October 13, 1924, is merely an experimental one, both the method of applying the rubber and the construction of the pipe being entirely different from that of the last two. The crude crepe rubber, about 9 inches wide and ⅛ inch thick, is wound in spiral form round a worn-out mild steel pipe. In winding, each turn of the rubber is allowed to overlap the preceding turn by about one-half the width. Altogether, four layers of rubber are wound on top of each other, in each layer the spiral direction of the winding being opposite to that of the preceding one. The rubber is about ½-inch thick all round the pipe.

On top of the rubber timber is run longitudinally on the pipe. This timber is about 3 inches by one inch, and fitted all round the rubber. It forms the outside casing of the pipe. The timbers are held in position with half clamps, made of 2½"x2½"x¾"angle iron. The angle iron is turned up at the ends to allow for the lug to bolt the half flanges together around the timber. In bolting the flanges together the joint face is allowed to protrude about one-half inch from the ends of the timber. Into this recess the rubber is turned back and held securely by a flange ring, which is pinned and rivetted to the angle iron flange.

Original Steel Core Disappears

In making up the pipe rubber solution was liberally applied throughout. In winding the rubber and fitting the timber, the pipe was carried between the centre of a lathe. After some six months' operation the old steel pipe which formed the original core was discovered to have almost entirely worn away, and the rubber appeared as it still does, one solid sheet with a smooth surface.

The second pipe, which was installed in November 30, 1924, is of mild steel plate 3/32 in. thick, and is far simpler and less expensive to make than the first pipe. It also possesses the advantage of being able to keep the bolt pitch circle of the flanges within standard limits, while the pipe itself is much lighter. The half-pipe is first bent to the required radius, and an angle iron 1¼ in.x 1¼ in.x¼ in. is then rivetted longitudinally along each edge. One face of the angle iron is drilled for ⅜ in. bolts at a distance of 12 in. apart, and becomes the means of bolting the halves of the shell together. The flanges are halved and are riveted to the shell plate.

Crude crepe rubber is made into a solid tube consisting of two thicknesses of ¼ in. sheets, one sheet turn being outside the other. The tube is laid inside one half of the shell and the other half is then placed on top and the two bolted together. During the fixing operations both the shell and the rubber tube were liberally coated with rubber solution.

Improvements in Application

The method of fixing the rubber at the flanges is much simpler than in that of the first pipe. Wood plugs are held in the end of the bore of the pipe, i.e., inside the rubber tube, and the rubber is cut outside the plug at a distance of about 1¼ in. from the flange. This 1¼ in. is then turned back with a flange ring, which slips easily over the wood plug. The inside face of the flange ring is recessed, the recess being in the form of a taper, which allows the full ½ in. thickness of rubber at the end turn, while it tapers out to nothing just under the bolt holes. The flange ring is fitted with four ⅜ in. guide pins on the back face, the pins entering four holes in the angle flange and serving as a guide to keep the flange central when forcing the rubber into position in the recess. The pins are afterwards cut and riveted to the angle flange, thus making the flange ring and angle face, as one flange, with the rubber held tightly in the space between.

The third and last pipe was installed on December 10, 1925, and, apart from the fact that its shell plate is of far lighter gauge, 1/16 in. galvanized, it is somewhat similar to the second pipe. Wilkinson process rubber sheet, ⅜ in. thick, is laid in each half of the shell, with the edges brought out between the joint angles. In bolting the two half pipe shells together the rubber is pinched between the angles, thus forming a joint. The rubber had a tendency to leave the shell near and below the side joints. On opening the pipe for inspection after several days' operation, however, the rubber was found to be in perfect condition, and adhering permanently all round the shell plate.

Supporting the Dredge Pipes

All three pipes are supported on wooden horses about 15-ft. apart, at an average height of 10 ft. above the ground. As the third pipe has a light gauge shell, strengthening bands 2½ in.x⅜ in. are bent and riveted to the shell at a distance of about 3 feet apart on the length of the pipe. These bands minimize the tendency of the pipe to sag or become distorted when supported on the horses.

Mr. Kinnear states that a fourth pipe has just been completed and is now in course of installation. This pipe embodies a combination of the second and third pipes described above. The shell is practically similar to that of the third pipe, while the method of making and fixing the crepe rubber lining coincides with that adopted in the second pipe. The rubber in this pipe is only ¾ in. thick, which is considered ample to withstand the cutting and abrasive action of the sand and water passing through it. The total weight of this fourth pipe is 443 lbs. This is approximately 140 lbs. lighter than a flanged mild steel pipe of the same length and 5/16 in. thick.

Importance of Tire Service for Motorcoaches & Trucks

The Rapid Growth in Highway Transportation Has Brought Many Problems But They Have Been Successfully Solved

By J. M. Linforth

Mgr., Highway Transport Dept., Goodyear Tire & Rubber Co.

HIGHWAY TRANSPORTATION in recent years has assumed a position in the economic structure of business second only to the commodities or service provided for the public welfare.

It is therefore becoming increasingly important that details influencing the proper operation of motor vehicles be thoroughly studied and analyzed for the purpose of increasing the efficiency of the equipment and at the same time decreasing the operating costs to a minimum.

Modern transportation over our highways by motor coach and motor truck is undergoing a number of drastic changes aside from the mechanical developments, which in the past few years have contributed so much towards the success of the new industry. It is indeed an encouraging situation to find that practically every branch or activity connected with the movement of passengers and freight via motor vehicles is alive to the responsibilities of their particular task and enthusiastic concerning the possibilities for expansion and betterment of existing conditions.

Good roads have contributed largely to the establishment of this industry. Broad continuous bands of concrete now connect practically every point of any importance and as a result, distances once considered prohibitive are covered with ease and comfort.

The automotive engineer and the road builder have performed their tasks in a highly commendable manner, certainly in keeping with the spirit of the industry they represent.

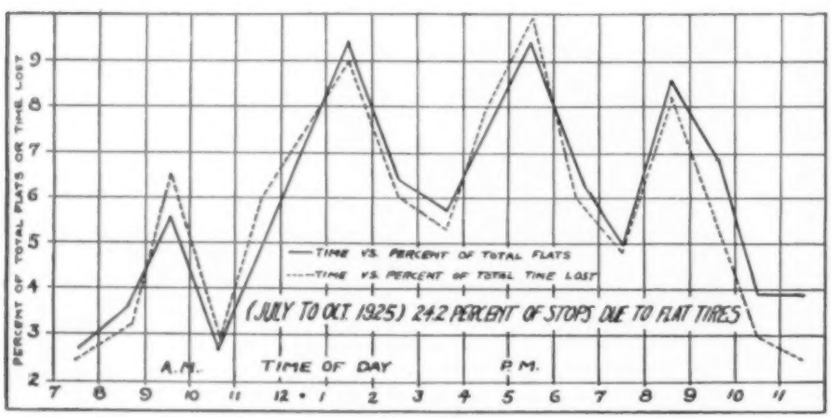
It is my purpose to here present some of the problems and the viewpoint of the rubber tire manufacturer, to acquaint you with a few of the obstacles he has successfully overcome in the past and to assure you of the serious way in which he is going about the solution of present day difficulties and of his sincere desire to keep pace with the rapid development of the transportation industry. Many of the remarks will have a reference to motor coach operation, but the limited time allowed for a discussion such as this prevents me from going into details intimately associated with motor truck operation. Nevertheless many of the tire problems are common to both coach and truck.

That the pneumatic tire was a highly important contribution to the success of the automotive vehicle goes without question. Indeed it is difficult to visualize just where the automotive industry would to-day find itself if solid rubber tires were still the universal equipment. The pneumatic tire provided the cushion for the vehicle and the load, and permitted the movement of passengers and freight at high speed over all sorts of highways.

Its development has not been without its serious problems for either its manufacturers or its users. To develop a product capable of delivering 20,000 miles in such exacting service as that demanded by truck and bus has really been an accomplishment worthy of note especially when we reflect that the smaller tire for ordinary passenger car service delivered only 3500 miles twelve years ago and only in recent years have they reached the point where an average mileage in the neighborhood of 15,000 miles is possible.

Many factors were presented in the development of the larger bus and truck tires which were not experienced in the development of the smaller sizes for passenger cars. In the case of the latter, loads were fairly well known and seldom greatly exceeded. The owner, usually actuated by pride of possession or the economy of doing so, exercised due care in their operation. He was apt to judge their performance according to the length of time they remained on his car and not entirely on the actual mileage delivered.

Paper read before the Boston meeting of the Society of Automotive Engineers, Nov. 16-18.


PERCENT OF TOTAL FLATS OR TIME LOST
TIME VS. PERCENT OF TOTAL FLATS
TIME VS. PERCENT OF TOTAL TIME LOST
(JULY TO OCT. 1925) 24.2 PERCENT OF STOPS DUE TO FLAT TIRES
A.M.
TIME OF DAY
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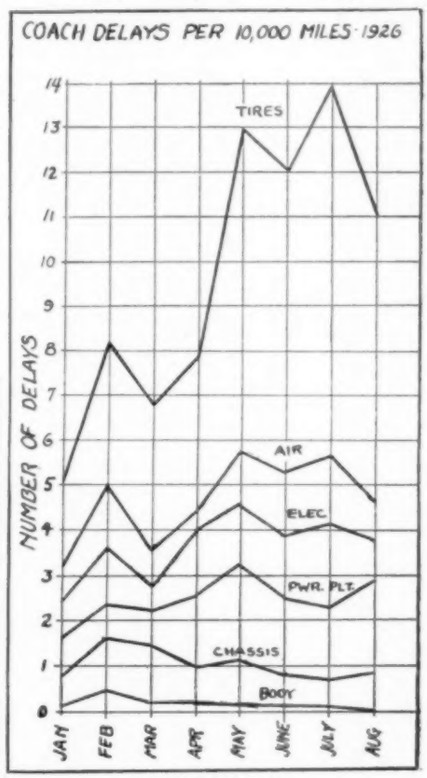
Slide No. 1



Slide No. 2

On the other hand motor bus and truck tires operate very differently. Loads vary considerably depending on the capacity of the vehicle and whether or not standees are permitted, while baggage racks and special equipment add to the weight. The roads and grades over which the vehicle travels bring into operation the frequent use of brakes thereby contributing to heat, either in the tire or as a result of high brake-drum temperatures. Proper personnel is another important factor influencing tire performance as it is quite the usual thing to find drivers who have no idea of proper tire usage and apparently care little about the efficiency and economy of tire service. Mileage records or performance data are likely to be kept in most fleet operations and it is definitely known which tires will or will not give satisfaction.

Fleet owners are becoming more and more sensitive to involuntary road delays. Any factor or factors influencing such delays are rapidly assuming a greater importance in the problem of mass passenger or freight transportation.

Tire performance no less than mechanical efficiency is naturally a pertinent part of a well operated and sucessful transportation agency. It must stand up and contribute its part towards the continuity of service and maintenance of schedules. It must be studied with the idea of reducing to an absolute minimum road delays which can be attributed to pneumatic tire design, manufacture and usage.

With the aid of a few slides an endeavor will be made to illustrate a few of the interesting results of various studies made to improve fleet operations from a tire standpoint. In making these studies we have been actuated by a desire to eliminate involuntary stops or interruptions to bus schedules which are directly traceable to tire and tube performance.

Naturally an ounce of prevention in case where the movement of passengers on a regular schedule is concerned, is worth many pounds of cure, but unless a study has been made into the causes of involuntary delays, it will be difficult to suggest means for their prevention.

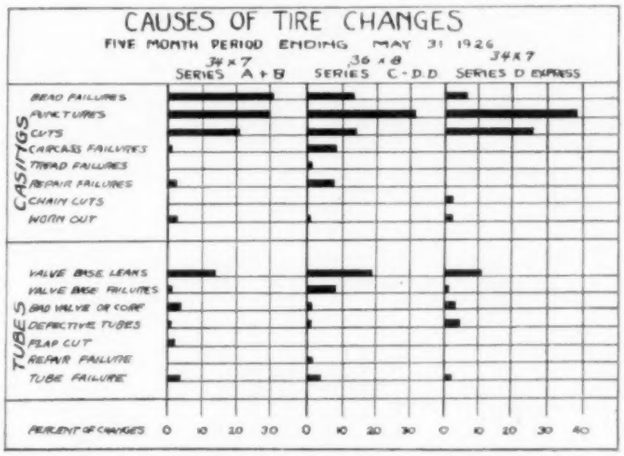
Delays Follow Peak Hours

We find in many instances that the number of road delays traceable to tires and tubes follows very closely the peak hours of motor bus operation or rather at hours when traffic is heaviest and when interruptions to schedules are most costly and inconvenient. Slide No. 1 is typical of a number of operations in large cities. Your attention is directed to the four distinct peaks, the first of which occurs between the hours of 7:30 and 9:30 a. m., during which there is heavy traffic as the people seek their places of employment. Another peak occurs between 12:30 and 2:00 p. m., due to the lunch hour and matinee traffic, while a third peak occurs between 5 and 6 p. m. due to the homeward bound traffic. The fourth peak which can be traced to the theater crowds in the evening occurs between 8 and 9 p.m., after which traffic falls off as the coaches return to the garage.

It is interesting to note that the first peak accounts for 5.5 per cent of the flats, the noon peak accounts for 9.5 per cent, a similar volume occurs during the late afternoon peak, and the late evening peak shows 8.75 per cent. Of course the time lost to buses or schedules as indicated by the dotted line shows a similar condition. This plot being based on the time reported by the mechanical department over a four month period.

Fleet operators are rapidly coming to give more and more attention to the subject of road delays as is indicated by slide No. 2, which shows the delays attributable to various causes, the data for which was collected over a six months period. Note the numerous delays caused by tire and tube trouble in comparison to other factors such as body, chassis, power plant, etc. This particular operator naturally has a tire problem on his hands and it is essential that every effort be exerted to determine the cause of all road delays and to take steps to eliminate them. Experience has shown that more trouble can be expected from tires during the hot summer months, and this is reflected in this chart as indicated by the increase in the number of tire delays commencing with the month of May.

Such interruptions to schedules are costly, not alone in the actual expense involved, but also in the effect on good will of the public and the loss in the earning power of the vehicle delayed or tied up. We submit that it is considerably more desirable to take precautions in the garage when the bus is in for storage or repair than to permit road delays if they can be averted. The fact that most of these delays have occurred at peak hours as was shown in a previous chart makes it doubly imperative to seek preventive measures. To accurately determine what caused tire road delays a number of studies was made, some of the details of which will be found in Slide No. 3.



Slide No. 3

Here is presented the cause of tire changes over a five month period and is of value as it shows exactly what is happening to the tires and tubes and which factors are outstanding. Bead failures may be an inherent weakness in the design of the tire or on the other hand, operating conditions may create extreme brake-drum temperatures resulting in premature destruction of the tires due to the influence of this heat. Punctures we have with us in every pneumatic tire operation; the number can however be reduced, a point we have proven when accurate data and study exist. Naturally the other factors are likewise treated according to whether operating conditions are responsible or product weakness exists.

Various operations show different causes for tire changes. In one particularly interesting operation cuts were by far the predominating cause of tire failure and were traceable to the habit of bus drivers to seek the car rails and run in them as they provided more comfort than the uneven cobble stone streets. Other causes for removal could be listed.

Still another operation could be presented showing in more detail the cause of tire changes over a four month period. It provides much of interest to the operator particularly when items such as "No Failure" are disclosed. In this particular instance a considerable number of tires was coming in which showed no cause or reason for going flat. Investigation soon disclosed a practice on the part of drivers to allow the air to escape from the tires when the bus had reached the end of the line and then to call up and report a tire failure, meanwhile enjoying a rest or layover. That condition no longer exists in this particular operation.

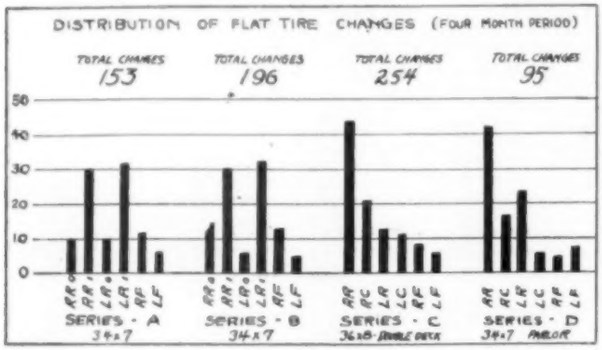
I have pointed out that tire punctures were a study and could be reduced in any operation. We may well consider the first step in an investigation into the cause of flat tires in a large city operation, the number of which took a decided jump for no apparent reason during one particular month. It was felt that temperature, that is atmospheric temperature, would reflect itself in the number of tire changes. During the month of the survey an accurate record of maximum daily temperatures was kept to see if abnormal heat had any effect on the month in question.

Only on one day did atmospheric temperatures reach a fairly high point and the average for the month was considered quite satisfactory from a tire standpoint. Precipitation, rain or snowfall necessitating the use of chains by taxicabs and other vehicles, thereby littering the streets with

chain links might also cause abnormal tire changes we reasoned. It was proven that on only two days was there any rainfall to speak of and accordingly no connection could be established from that angle. It should be mentioned however, that both these factors do reflect themselves in tire performance. If this study had been continued for three or four months longer, bringing it into mid-summer, it would doubtless have reflected a similar increase in tire trouble due to temperature as has already been shown on a previous slide (Slide No. 2).

It is often helpful to know just where flat tires occur, that is, on which wheel location and which type of vehicle is responsible for most of the flats. In this way defects attributable to bus or truck will be brought to light as it has been our experience that misalignment of wheels, excessive brake-drum heat, interference between the tire valve stem and the wheel, or even faulty brake adjustment and operation will reflect themselves in an abnormal number of tire changes.

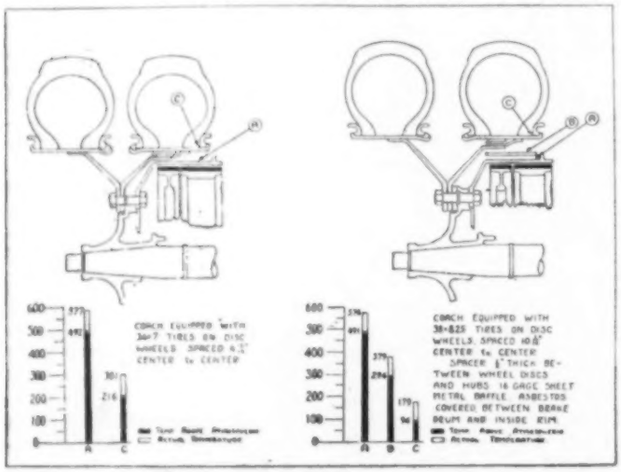
Details are charted on Slide No. 4.



Slide No. 4

Frequent mention has been made of brake-drum heat and its influence on tire performance. Considerable study has been given to this particular subject and some very interesting results have been obtained. The left half of Slide No. 5 provides a fairly clear idea of the conditions found in a number of large bus operations of both city and interurban type. Taking existing equipment we found brake-drum temperatures of around 492 degrees above atmospheric and 577 degrees actual. With such brake-drum temperatures is it any wonder that tire beads are subjected to 301 degrees? It is needless to point out the destructive influence exerted on the rubber in the tire.

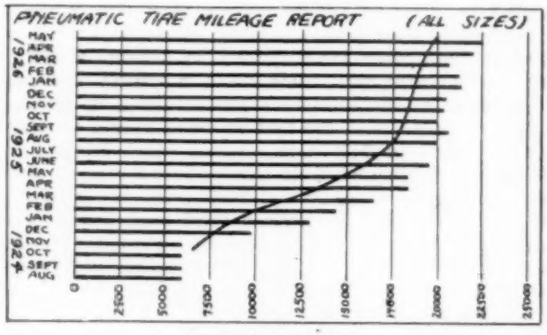
Considerable thought and study have been given to possible remedies for such conditions, but we are frank to admit that with existing equipment there does not appear to be much hope of relief. Indeed the mere increase in wheel diameters cannot in itself provide absolute freedom from such destructive temperatures. The most promising results have been obtained by the use of a larger diameter wheel as in the illustration on the right, where a 22-inch wheel is pictured, used in conjunction with a baffle of sheet metal covered with asbestos between the brake drum and the rim, acting as a deflector or shield from the rim and the tire. Note the temperatures obtained with this equipment. The rim or rather the tire bead shows only 179 degrees, the baffle 379 degrees, while the brake drum temperature remains as in the first instance, around 577 degrees. It has also been found that spoke wheels, acting in the capacity of a fan, have favorably affected these temperatures as they provide more ventilation for the brake drum.


COACH EQUIPPED WITH 34x7 TIRES ON DISC WHEELS SPACED 4.5" CENTER to CENTER
COACH EQUIPPED WITH 36x8.25 TIRES ON DISC WHEELS SPACED 10.8" CENTER to CENTER SPACER 1" THICK BETWEEN WHEEL DISCS AND HUBS 16 GAGE SHEET METAL BAFFLE ASBESTOS COVERED BETWEEN BRAKE DRUMS AND INSIDE RIM.

Slide No. 5

One of the interesting results of excessive brake-drum temperature was the great increase in the air pressure in the tire. Where such destructive brake-drum temperatures are found the initial, or we might say, garage pressure of the tires when they start out in the morning are likely to be considerably increased by the time the coach returns in the evening or just after the peak rush in traffic. According to one study, an initial pressure of 110 pounds in the inside tire was likely to develop into a pressure of 135 pounds later in the afternoon. Pressures much in excess of these were found in other studies; some of them far beyond the margin of safety of the tire, when the rubber has already been softened by high temperature. Such conditions are likely to result in bruising the tire and blowing out of the carcass or pulling out of the tire beads.

A check on the temperature of the air in tires when the coaches return in the evening was also of much interest. The rear inside tire, located directly over the brake-drum, showed about the same temperature as the air in its tube, regardless of the inflation of the tire. This is easily explainable by the fact that the brake-drum is by far its main source of heat. In contrast to the rear inside tire is the rear outside tire, where the flexing of the tire itself is the main source of heat. Increase of initial inflation will decrease the amount of flexing, so that the higher the initial inflation the lower would be the temperature of the air in the tube of the rear outside tire.


PNEUMATIC TIRE MILEAGE REPORT (ALL SIZES)
1926 MAY APR MAR FEB JAN DEC NOV OCT SEPT AUG
1925 JULY JUNE MAY APR MAR FEB JAN DEC NOV OCT
1924 SEPT AUG
0 2500 5000 7500 10000 12500 15000 17500 20000 22500 25000

Slide No. 6

There may arise the question of why so much detail in connection with tire service for motor truck and bus fleets. When you look at Slide No. 6 and note the steady increase in tire mileage you will agree with me that the attention to all factors influencing tire performance pays. In addition to the increase shown in the average accumulated mileage as indicated by the curved line drawn through the graphs representing the monthly mileage on all sizes of tires, there was a decided decrease in the number of road delays due to tire and tube trouble. Not alone was the tire bill of the operator greatly reduced due to his high average mileage, but his road service costs were cut in half, his schedules were better maintained, and his efforts to sell satisfactory transportation to his patrons were aided considerably.

Probably the most recent as well as the most interesting development insofar as pneumatic truck and bus tires are concerned is that of the balloon or low pressure tire. Mention has already been made of the cushioning qualities of the pneumatic tire and that its widespread adoption aided the automotive industry.

In the balloon tire of considerably larger cross-sectional

dimension and lower air pressure we have another decided step in that direction.

During the past three years these tires have been operated in various types of service in an ever increasing number of fleets and sufficient data is now available upon which to base definite favorable conclusions.

We may now consider four of the sizes most likely to come into general use. It will be noted that the existing 6 in. high pressure tire can be replaced with a low pressure tire of 7.50 cross-section for which a recommended load of 2,100 pounds is indicated, or it can be replaced with a low pressure tire of 8.25 cross-section for which a load of 2,500 pounds is recommended. In the case of the 7.50 tire we feel that its use should be confined to vehicles upon which the present 6 in. equipment is not over-loaded and in the case of the 8.25 tire, best results will be obtained in confining its use to loads somewhat in excess of the 6 in. high pressure load, but lower than the next higher size.

The 7 in. high pressure tire is replaced by the 9.00 balloon tire carrying the same load as that recommended for the tire it replaces (3,000 pounds). The 8 in. high-pressure is replaced by the 10.50 balloon carrying 4,000 pounds. Inflation in each case is based on 45 pounds, as compared with 90 pounds for the 6 in., 100 pounds for the 7 in., and 110 pounds for the 8 in.

The three smaller sizes are now quite generally used by bus manufacturers as original equipment while the 10.50 tires will very likely find their greatest field on double deck coaches using multi-wheel or the so-called six wheel principle, or else on trucks using 8 in. single tires. Other sizes are contemplated but as yet are confined to the development stage.

A few of the advantages to be obtained through the use of balloon tires from an operator's viewpoint are as follows:

1. More comfort for the passengers, hence they are an aid of the sale of transportation.
2. Lower mechanical upkeep as they provide considerable cushion for the vehicle.
3. Greater ground contact, thus providing greater traction and at the same time considerably reducing skidding.
4. Increase in the average speed without an increase in the maximum speed of the vehicle due to the fact that drivers do not need to slow down for every rough spot in the road and can make sharper turns with more safety.
5. Tire mileage is likely to be favorably affected; this in some operations has amounted to as much as 50 per cent.

Imports of Druggists' Sundries

Importations of druggists' rubber sundries into the United States for the nine months ended Sept. 30, 1926, were valued at $117,173. The United Kingdom was the largest exporter of this class of rubber goods to this country, and reached its peak in January when it shipped druggists' sundries valued at $21,187. Since that time imports from the United Kingdom have declined month by month, reaching a low level of $2,830 in August. Germany was the next largest exporter, shipping goods valued at $2,103 in January and $1,626 in August.

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WAREHOUSE STOCKS AT AKRON AND CHICAGO.

Rubber in Br. N. Borneo

[Continued from Page 238]

Sandakan Peninsula to and along the shores of Labuk Bay. This area is accessible at its eastern end by road from Sandakan and by launch at several points on Sandakan Bay. It is also accessible at five different points along Labuk Bay by rivers navigable for sea-going launches; the steaming distance from Sandakan being three to seven hours. The rivers penetrate into the area for considerable distances, affording natural points of access for development of planting units of from five to ten thousand acres. The total area of the tract is in the neighborhood of 100,000 acres, all of which can be developed by a minimum amount of estate roads, because of the many separate points at which planting can be commenneed.

The whole area is rolling, well-drained land, ranging in elevation from sea level up to 300 feet. The soil is a deep, fertile, sandy loam, rich in humus in the surface layers. The original cover was a high forest of good quality. Some fifty per cent of the area contiguous to Sandakan and Labuk Bays has been the site of logging operations for the last twenty years and the bulk of the heavy timber has been removed from those portions of the area that would naturally be the first points of development. This logging has not sufficiently disturbed forest conditions to permit the entrance of grass or brush, and the soil remains in the virgin condition which has proved so conducive to rapid development of rubber in similar situations throughout the Middle East. From all physical, soil and climatic standpoints the tract is unexcelled for rubber production.

The above area, because of its accessibility from Sandakan, the chief shipping port of the State, is probably one of the most desirable planting locations in the colony; but it is by no means the only large desirable tract. Equally good land of similar extensive area can be located at a number of points within a few miles of the coast, between Sandakan and Tawao. The writer has particularly referred to this tract because it is one with which he is thoroughly familiar, having hunted over portions and having visited every part of it. However, eleven years of residence in the colony, four years of which were spent largely in exploration has given him the opportunity to carefully examine a great deal of the undeveloped territory of the State and he would unhesitatingly say that there can be no limitation of rubber development in Borneo through lack of suitable land. It is not suggested that, if and when American capital decides to establish an American-controlled plantation industry, Borneo should be given the preference. It will probably be desirable, if the venture be attempted on the scale which conditions seem to require, that plantations be established in a number of different countries; and when this matter comes up for consideration the possibilities which exist in this little-known British Protectorate should not be lost sight of.

"Recommmendations for the determination of the Acetone Soluble Portion of Factice.

Weight of Sample—2 gms. for both White and Brown.

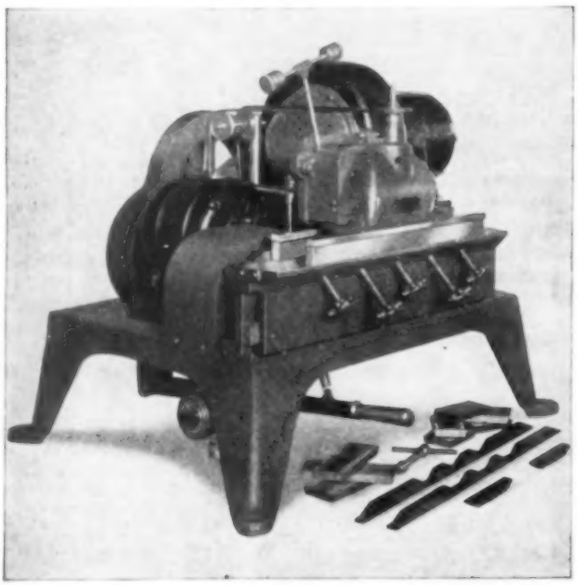
Fineness of Sample—For White — As manufactured, except in case of White Gums. For Brown — As fine as consistency will permit in mechanical or mortar grinding.

Time of Extraction—For White — 8 hours by 3 minutes. For Brown — 16 hours by 3 minutes.

Type of Apparatus — Underwriters' Apparatus with Siphon Tube of dimensions recommended by the Joint Insulation Committee under date of January, 1914."

Extract from "Measurements of Quality of Factice".

SCOTT TESTERS



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The London Letter

The GENTLEMAN FROM MINCING LANE will report current opinion in London's famous rubber market in every issue of THE RUBBER AGE

This Week the Gentleman Says "All Aboard for Brazil".

LONDON, November 23, 1926.

COMMENTING ON the continuance of the rubber restriction scheme, a continuance dubbed "temporary" in the Colonial Office announcement, the *Statist* (London) in its last issue says, "Since the achievement of complete financial rehabilitation for which the Stevenson scheme was avowedly planned, we have held the view that a continuance of the restriction was not justifiable in the permanent interest of industry, however desirable it might seem to be from the point of view of dealers in rubber and others looking for immediate profits. In this connection the dominating position the United States occupies by reason of its consumption of rubber exceeding two-thirds of the world's production, and the ill effects that may follow a sudden attainment of the expansion limit in that great country, has frequently been pointed out".

Without doubt, the writer of the above condemns a further continuance of the restriction scheme because of his concern over the possibility of the steady increase from competition of rubber grown in other than British areas, a possibility which does seem most likely in view of the very substantial increase in the Dutch percentage of world production in recent months.

There has not been any recent news of interest in connection with the development of rubber estates in other parts of the world until the announcement in last Sunday's papers of a new London Company to operate in Brazil, called the Para Plantations Limited, having a nominal capital of £300,000, divided into 2,000,000 Preferred Ordinary Shares of 2/— each, and 2,000,000 Deferred Shares of 1/—each. The public are invited to buy this issue of 2,000,000 Preferred Ordinary Shares of 2/— each at par, 6d per share to be paid on application, and 1/6d per share on allotment.

This Company has been formed to take over the control of a Brazilian Company which owns and operates something over 400,000 acres (about 650 square miles) of wild rubber estates in Brazil, and it is also proposed to apply for an exclusive governmental concession for erecting and operating a factory to treat wild rubber in the city of Para.

EARLY REPORTS as to the extent to which the British public have purchased the shares on this offer indicate a very small response even though the directors of the company are men of standing (two members of Parliament being included) and also in spite of the keen interest that British people have evinced in rubber shares during the past several years. It is evident that British rubber shareholders do not fancy investment in rubber estates outside of areas with which they are familiar, notably in the British and Dutch East. As one Stock Exchange broker put it to me, "the holders of British shares are as well informed as we are on the status of the rubber industry in general and in particular". In his opinion, this new project would have to go to "outsiders", rather than to present holders (insiders) of British Rubber shares.

A Mincing Lane comment on this new project is to the effect that the price to be paid for the Brazilian Company is too high and the question of labour supply too uncertain. It is thought that the present rubber prices are too low to stimulate outside developments. It is thought that 2/— per lb. in London is a minimum for the success of such a project. Odd, isn't it, when you think of it, that this price of 2/— should also be the pivotal price aimed at under the new Stevenson restriction! It is pointed out that several British Companies were formed and some British money was lost in Brazilian estates in the 1910 boom.

I notice in the U. S. Department of Commerce survey of Brazilian rubber that their investigators were not too concerned about the supply of labour in the lower Amazon, although the upper Amazon they considered to be extremely questionable on this account. The two estates of this new company are located on the Topajos and Xingu rivers, both in the lower Amazon district.

As to the price factor in its prospectus, the Company figures on an average cost per pound of rubber delivered at Para of 1/— during the next five years, in which time they aim to have their production increased from 1,800,000 pounds in 1927 to 3,200,000 pounds in 1931. Also they hope to be able to realize an average selling price per pound at Para of at least 1/6d., netting very satisfactory paper profits accordingly.

AS THIS project is underwritten in London, it will proceed regardless of whether or not the public favour it with the purchase of a large share of the stock. It seems to me, this is a very interesting proposition in view of the American investigation of alternative sources.

Mincing Lane has been convinced lately that there has been further centralised buying on the part of American interests whenever the price dropped below 1/7½d in London, and they point out that it is just for this purpose that the Stevenson scheme was formed—to prevent the manipulation of the market to lower and lower levels. Unfortunately for this argument, rubber is down to 1/7d today, and buying in the Lane is duller than the weather—today we are depending on the chimes of Big Ben (the clock on the tower of the House of Commons) to tell us when day ends and night begins.

I think your readers would be interested to know that not counting the two big items of cotton and coal, American merchandise in general has been sold in volume during the first three-quarters of this year at a rate about equal to last year or so, I am informed by a reliable authority. It is still early to get any figures on the movement of rubber goods under this classification.

Yours Faithfully,

THE GENTLEMAN FROM MINCING LANE.

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WEEKLY MARKET REVIEW ON REQUEST

Buying Pool Helps Weak Rubber Market

Market Unable to Resist Combined Effects of Small Demand, Heavy Arrivals and Bearish Automobile Production Figures

NEW YORK, Dec. 3, 1926—Fifteen days ago the rubber market offered its first resistance to the long uninterrupted decline when short operators found prices that offered profitable covering. The resistance to further declines occurred despite the release of Government figures showing a decline of 65,603 cars in automobile production for the month of October.

Following a decline of from 40 to 90 points on the Exchange and as much as one cent in the outside market, a drop which widened the price parity between the London and New York markets to two cents, prices staged a brilliant recovery on short covering. This continued the next day, resulting in a net gain of from 20 to 60 points, despite unchanged conditions in London.

Fluctuations ranging from 50 to 90 points were a feature of the next few days. Business was active on the Exchange, but heavy arrivals, and poor manufacturing demand caused a weak market. The outside market appeared to follow Exchange declines reluctantly but advances with enthusiasm. The price loss for the week ended Nov. 27 was very uneven, as December, March, January, February and April lost from 130 to 190 points, although the months of July, May and June declined only from 70 to 90 points.

The market broke three-quarters of a cent to the 37-cent level on the 29th in sympathy with a decline in London despite the first decrease in stocks since August 3. London stocks were reported as 43,859 tons, against 44,553 the previous week.

Following a day when sentiment in the market was more cheerful, due to a net gain of 20 to 40 points, prices slid back, with a net loss of 30 points. Government figures showing unusually heavy shipments for the last week in November had much to do with the weakness. The figures showed that 10,568 tons were imported from Malaya, Ceylon, Java, London and Liverpool, during the week ended Nov. 27. It was estimated that November arrivals would aggregate 37,000 tons, which would contrast unfavorably with an estimated consumption of 28,000 tons for the month.

The announcement made yesterday that certain large rubber companies and automobile manufacturers had formed a combine against restriction by organizing a buying pool electrified the market. Although London closed before the publication of the report, it caught the Exchange here in the course of a declining trend early in the afternoon session, changing the situation in a few minutes. Early declines were changed to gains of 20 to 50 points. Sellers withdrew from the outside market and buyers found nobody to entertain their bids. One prominent operator said that the buying pool had been in operation for the past three months.

DEC. 2 OPEN MARKET PRICES

Plantations—			
Ribbed Smoked Sheets			
Spot	.37½	@	.37¾
December	.37½	@	.37¾
Jan./Mar.	.38	@	.38½
April/June	.38½	@	.39½
First Latex, crepe spot	—	@	.37¾
Amber Crepe, No. 2, spot	.33½	@	.34
" " No. 3	.32½	@	.33½
" " No. 4	.31	@	.31
Brown Crepe, Rolled	.28¼	@	.29¼
" " Clean, thin	—	@	.34¾
" " Specky	.37½	@	—
Liquid Latex, per gal.	1.50	@	1.75
Pontianac—			
Bangermassin	—	@	.17¼
Palembang	Nominal		
Prime Pressed	—	@	.27½
Sarawak	—	@	.17¼
Paras—			
Up-river Fine	.31	@	.31¾
" Medium	.26	@	.27
" Coarse	.25½	@	.26
Acre Bolivian, fine	.31½	@	.32½
Tapajos, fine	.31	@	.32
Cut Beni Bolivian, fine	.31	@	.32
Caucho Ball—			
Upper, shipment	.20	@	.21½
Centrals—			
Corinto, scrap	.20	@	.21
Esmeraldo, sausage	Nominal		
Guayule, w and d	.27	@	.28
Africans—			
Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
" " red	Nominal		
Balata—			
Block, Columbia	Nominal		
" Cuidad	.47	@	.48
Surinam, sheet	.74	@	.75
Gutta Percha—			
Siak	—	@	.30½
Red Macassar	3.00	@	—
Chicle—			
Mexican, Yucatan	.65	@	—

LONDON MARKET

Standard Ribbed Smoked Sheets—*Buyers*	
Spot	17⅜d
December	17⅝
Jan./March	18
April/June	18⅝
July/Sept.	19⅛

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—*Sellers*	
Spot	17⅝d
Jan./Mar.	18
April/June	18⅜

RECLAIMED RUBBER

NEW YORK, Dec. 3, 1926—Curtailment of tire production has been offset by capacity operations in footwear departments, as far as reclaimers are concerned, for they report good demand from that quarter. Prices are firm, as it is expected that spring dating orders will soon result in a return to higher production in tire factories. Withdrawals on contracts by mechanical goods manufacturers continue at a steady rate.

High Tensile Black			
Super-Reclaim No. 1	.lb. .19	@	.20
" " No. 2	.lb. .16	@	.17
Shoe			
Unwashed	.lb. .08¾	@	.09
Washed	.lb. .11¾	@	.12¼
Tube			
No. 1 (Floating)	.lb. .18	@	21
No. 2 (Compounded)	.lb. .15½	@	.16½
Tires			
Black, unwashed	.lb. .09	@	.09½
Black, washed	.lb. .11	@	.11¼
Black selected tires	.lb. .10½	@	.11
Dark Gray	.lb. .12	@	.13
Light Gray	.lb. .13	@	.14
White	.lb. .17	@	.17½
Truck, Heavy Gravity	.lb. .08¾	@	.09½
" Light Gravity	.lb. .09¾	@	.10¼
Miscellaneous			
Mechanical Blends	.lb. .08	@	.09
Red, High Grade	.lb. .17½	@	.18½

SCRAP RUBBER

NEW YORK, Dec. 3, 1926—Scrap rubber dealers report that during the last two weeks demand from reclaimers was limited to small orders. The dullness of the market was reported as partly the result of the situation prevailing in the crude rubber market which has caused reclaimers to exercise caution when making commitments. Accumulations of scrap have begun to slow up, with the result that dealers' quotations on several grades have been increased. Large dealers are optimistic regarding future business.

[Prices to Consumer]

Auto tire peelings	ton 37.50	@40.00	
Standard White auto	ton 57.50	@60.00	
Mixed auto	ton 26.00	@27.00	
Bicycle tires	ton 25.00	@26.50	
Clean solid truck tires	ton 40.00	@42.00	
Boots and shoes	.02¼	@	.02⅜
Arctics, untrimmed	.01¾	@	.01½
Arctics, trimmed	.01⅝	@	.01¾
Inner tubes, No. 1	.09¾	@	.10
Inner tubes, No. 2, compounded	.08¼	@	.08⅝
Air Brake Hose	ton 34.00	@36.00	
Rubber hose	ton 21.00	@23.00	

Closing Prices on Rubber Exchange of New York, Inc.

NOV. 18 TO DEC. 2

	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	SALES*
Nov. 18	39.40	39.50	39.80	40.00	40.20	40.70	41.00	41.20	41.40	41.60	41.80	42.00	——	413
19	38.80	38.90	39.10	39.30	39.60	40.00	40.30	40.50	40.60	40.80	40.90	41.20	——	233
20	38.80	38.80	39.20	39.50	39.90	40.20	40.40	40.50	40.60	40.90	41.10	41.30	——	61
22	38.20	38.10	38.30	38.80	39.00	39.50	40.00	40.20	40.40	40.60	40.80	41.00	——	334
23	38.20	38.20	38.50	38.80	39.10	39.50	39.90	40.20	40.40	40.60	40.80	41.00	——	392
24	38.60	38.30	39.00	39.10	39.40	39.80	40.50	40.70	40.90	41.10	41.30	41.50	——	421
25	Exchange closed in observance of Thanksgiving.													
26	——	37.70	38.00	38.50	38.60	39.10	39.60	40.10	40.40	40.70	40.90	41.10	——	570
27	——	37.30	37.50	38.00	38.20	38.60	39.30	39.70	39.90	40.10	40.30	40.50	——	87
29	——	36.80	37.00	37.50	37.80	38.10	38.70	39.20	39.40	39.60	39.80	40.10	——	233
30	——	37.10	37.50	37.80	37.90	38.40	39.00	39.40	39.60	40.00	40.20	40.40	——	357
Dec. 1	——	36.60	36.80	37.10	37.40	37.80	38.40	38.70	39.10	39.30	39.50	40.30	40.80	396
2	——	36.50	37.00	37.20	37.80	38.20	38.70	38.90	39.30	39.40	39.40	40.30	40.50	562

(*) In lots of 2¼ tons each; totals are for old and new contracts.
(Prices are for new contracts)

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INCORPORATED

511 Fifth Avenue New York, N. Y.

Rubber Chemical Market is Steady

Month of December Saw a Better Volume of Contract Business Placed than had Been Expected—Quotations Continued Steady

NEW YORK, Dec. 3, 1926—During the past fortnight there has been little change in conditions in the market for rubber chemicals and compounding ingredients, producers report. Although sales fell off somewhat in November from high October levels, the month was considered a satisfactory one and was even better than had been expected. Prices were steady and firm, and curtailments in the production rate of tires and tubes were partly offset by the introduction of capacity operations in footwear departments. Although production of chemicals continued at a steady rate, withdrawals on contracts kept stocks at a normal level. The considerable volume of contract business placed during the month augurs well for the new year. Most of the chemical firms expect that the trend of business will continue at its present rate for the balance of the year, and are very optimistic regrading the volume of sales anticipated for the first quarter.

ACCELERATORS

Organic

A-7	lb.	.70 @	—
A-40	lb.	.70 @	—
A-19	lb.	.75 @	—
A-11	lb.	.75 @	—
Aledhyde ammonia, crystals	lb.	.82 @	—
Aniline oil, drums	lb.	.17 @	.17½
"BB"	lb.	1.05 @	1.07
Captax	lb.	1.20 @	1.50
Crylene	lb.	.70 @	—
paste	lb.	.50 @	—
Di-Ortho-Tolylguanidine	lb.	1.08 @	—
Diphenylguanidine	lb.	.85 @	.88
Ethylidene aniline	lb.	.60 @	.65
Excellerex	lb.	.35 @	.40
Formaldehyde-Aniline	lb.	.40 @	.42
Grasselerator 102	lb.	.80 @	.85
Grasselerator 552	lb.	4.80 @	5.00
Grasselerator 808	lb.	1.25 @	1.50
Heptene	lb.	.55 @	—
Hexamethylene-tetramine	lb.	.80 @	.82½
Monex	lb.	3.25 @	—
Paraphenylenediamine	lb.	1.25 @	1.30
Piperidine-Piperidyldithio-Carbamate	lb.	4.80 @	5.00
R & H 50	lb.	— @	.65
Super-Sulphur No. 1	lb.	.50 @	—
Super-Sulphur No. 2	lb.	.18 @	.25
Tensilac, No. 41	lb.	.65 @	—
Thiocarbanilide, kegs	lb.	.28½ @	—
Trimene	lb.	.75 @	—
base	lb.	1.20 @	1.35
Triphenylguanidine	lb.	.70 @	.73
Tuads	lb.	3.25 @	3.50
Vulcone	lb.	.75 @	.79
Z. 88	lb.	.75 @	1.00
Zimate	lb.	4.00 @	—

Inorganic

Lead, sublimed blue	lb	.10 @	.10½
Lead, white	lb.	.10½ @	—
Litharge, domestic	lb.	.12¼ @	—
Magnesia, calcined, light	lb.	.06½ @	—
heavy	lb.	.04½ @	—

COLORS

Blacks (See Compounding Materials)

Blues

Prussian	lb.	.33 @	.35
Ultramarine	lb.	.08 @	.35

Browns

Siena, Italian	lb.	.04 @	.08
Umber, Turkey	lb.	.04 @	.06

Greens

Chrome, light	lb.	.27 @	.31
medium	lb.	.29 @	.32
dark	lb.	.31 @	.34
Chromium Oxide, bbl.	lb.	.31 @	.38

Reds

Antimony crimson, 15/17	lb.	.27 @	—
sulphur free	lb.	.48 @	.50
Venetian red	lb.	.01½ @	.05
golden 15/17 F.S.	lb.	.16 @	.22
Indian English	lb.	.11 @	.13
Oximony	lb.	.13¼ @	—
Para toner	lb.	.80 @	.90
Red oxide, reduced	lb.	.10 @	.11
pure	lb.	.14 @	.15
Toluidine toner	lb.	1.75 @	1.85
Venetian red	lb.	.02½ @	.05
Vermillion, quicksilver, English	lb.	1.55 @	1.60

Whites

Lithopone, Akcolith	lb.	.05¾ @	.06
Litnopone, Azolith	lb.	.05¾ @	.06⅛
Zinc Oxide—American Process			
American Azo: ZZZ (lead free)	lb.	.06½ @	.07
ZZ (under 5% leaded	lb.	.06⅝ @	.06⅞
Zinc Oxide—French Process			
White seal	lb.	.11¾ @	—
Green seal	lb.	.10½ @	—
Red seal	lb.	.09½ @	—

Yellows

Chrome	lb.	.17 @	.18
Ocher, French medium	lb.	.02¾ @	.03
domestic	lb.	.01¾ @	.02½

COMPOUNDING MATERIALS

Aluminum Flake (f.o.b. plant)	ton	21.85 @	24.50
hydrate light	lb.	.16 @	.17
Ammonia carbonate	lb.	.13½ @	.16½
Are-O Sol	ton	8.00 @	11.00
Asbestine	ton	16.00 @	18.50
Barium carbonate	ton	54.00 @	55.00
Barium Dust	lb.	.05 @	.06
Barytes southern off-color,	ton	12.00 @	18.00
Western prime white	ton	23.00 @	—
imported	ton	27.00 @	36.00
Basofor	lb.	.04½ @	—
Blacks Arrow "Aerfloted"	lb.	.09 @	.13
Bone Black	lb.	.05½ @	.11
Carbon, compressed	lb.	.08½ @	.12½
" uncompressed	lb.	.08 @	.12
Drop Black	lb.	.07½ @	.14
Lamp "	lb.	.12 @	.40
Micronex	lb.	.09 @	.13
Thermatomic carbon	lb.	.05 @	—
Blanc fixe dry f.o.b. works	lb.	.04 @	—
Carrara filler	lb.	.01¾ @	.02
Catalpo (fact.)	lb.	.02 @	—
Chalk	lb.	.02½ @	.04½
Clay, China, domestic	ton	8.00 @	9.00
Aerfloted Suprex	ton	11.00 @	20.00
Blue Ridge, Dark	ton	9.00 @	—
" " Light	ton	12.00 @	—
Dixie	ton	15.00 @	30.00
Langford	ton	12.00 @	22.00
Mineral Flour, c. l. fob mine	ton	20.00 @	23.00
Glues, extra white	lb.	.19½ @	.29
medium white	lb.	.18 @	.24
common bone	lb.	.13 @	.14
Graphite flake, bbls.	lb.	.06½ @	.10
Magnesia, carbonate	lb.	.08 @	.09
Mica, powdered	ton	65.00 @	80.00
Rotton Stone (powdered)	lb.	.05 @	.07
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	3.30 @	3.70
Talc, domestic	ton	16.00 @	18.00
Terca Alba	cwt.	1.15 @	1.75
Tripoli, white	lb.	.01¾ @	.02
Whiting, commercial	cwt.	.85 @	1.00
English cliffstone	cwt.	1.50 @	—
Quaker	ton	13.00 @	15.00
Superfine	ton	10.00 @	12.00
Sussex	ton	8.00 @	10.00
Wood pulp XXX	ton	35.00 @	—
" " X	ton	25.00 @	—

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Granulated M.R.	ton	33.00 @	38.00
Hydrocarbon, Hard	ton	29.00 @	35.00
Hydrocarbon, Soft	ton	29.00 @	—
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00 @	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00 @	47.00
Paradura	ton	70.00 @	72.50
Robertson, MR, solid	ton	35.00 @	75.00
M.R. (gran)	ton	42.00 @	80.00

SOFTENERS

Acids

Muriatic, 20%	cwt.	.95 @	1.05
Nitric, 36 degrees	cwt.	5.00 @	5.25
Sulphuric, 60 degrees	ton	10.50 @	11.50
66 degrees	ton	15..00 @	16.00
Tartaric, crystals	lb.	.29½ @	—

Alkalies

Caustic soda, 76%	cwt.	3.20 @	—
Soda ash, 58% C.L.	cwt.	1.43 @	1.45½

Oils

Castor, No 3 bbls.	lb.	.11½ @	—
Corn, crude, bbls.	lb.	.10½ @	.11
refined	lb.	.11¾ @	—
Cottonseed, crude		.06½ @	—
Cycline	gal.	.26 @	.34
Fluxrite	lb.	.05 @	.06
Glycerine, C.P. drums	lb.	.30 @	.32
Linseed, Raw C.L. bbl	lb.	.10¼ @	—
Moldrite	lb.	.05 @	.06
Palm Lagos	lb.	.08¼ @	.08⅜
Niger	lb.	.07½ @	.07⅝
Peanut, domestic, crude	lb.	.11 @	—
Petrolatum, white	lb.	.09¼ @	.09½
amber	lb.	.03¾ @	.04
dark amber	lb.	.03⅜ @	.03½
Pine, steam distilled	lb.	.70 @	.72
Rapeseed, refined	gal.	.77 @	.86
blown	gal.	.95 @	—
Rosin, first rectified	gal.	.75 @	—
second rectified	gal.	.80 @	—
Soya Bean, crude		.13 @	—
Synthecite	lb.	.06 @	—
Tar, commercial	gal.	.30 @	.32

Resins and Pitches

Pitch, Burgundy	lb.	.06½ @	.07½
coal tar	gal.	.05½ @	.06
pine	bbl.	9.00 @	10.00
Rosin, grade K	bbl.	13.45 @	—
Tar Retort	bbl.	16.00 @	16.50
kiln burned	bbl.	15.50 @	16.00
Tackol	lb.	.09 @	.15

Solvents

Acetone, pure	lb.	.14½ @	—
Alcohol denatured, No. 1 bbls.	gal.	.40 @	—
Benzol, 90%	gal.	.30 @	—
pure		.30 @	—
Carbon bisulphide	lb.	.05½ @	.06¼
Turpentine, spirits	gal.	.89 @	.90
Motor gasoline, steel bbls.	gal.	.21 @	—
Naptha, V. M. & P.	gal.	.16¼ @	—
Turpentine, spirits	gal.	.93½ @	.94½
wood	gal.	.84 @	.88

Waxes

Beeswax	lb.	.39 @	.40
Carnauba, No. 1	lb.	.50 @	.51
Ceresin, white	lb.	.10 @	.11
Montan, crude	lb.	.06 @	.06½
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
ParaffineWhite A.M.P.	lb.	.05 @	.05¼
Yellow A.M.P.	lb.	.05 @	.05¼
Sweet Wax	bbl.	.10 @	—

ANTI-OXIDANTS

Age-Rite	lb.	.85 @	.90
Antox	lb.	.88 @	—
VGB	lb.	.66 @	—

SUBSTITUTES

Black	lb.	.08½ @	.14
White	lb.	.10 @	.17
Brown	lb.	.10 @	.15

VULCANIZING INGREDIENTS

Ethyl Chloride, Cyl.	lb.	.55 @	—
" Drums	lb.	.45 @	—
Sulphur Chloride (drums)	lb.	.04 @	—
Sulphur flour Superfine, bags	cwt.	2.20 @	2.75
" bbls.	cwt.	2.35 @	3.10
100% pure, refined, bags	cwt.	2.60 @	3.15
bbls.	cwt.	2.85 @	3.40

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ECONOMY CALENDER SHELLS

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Forecast Has No Material Effect on Cotton

Power of Resistance Displayed by the Market in the Face of a Crop of Huge Proportions Impresses Almost Everyone

NEW YORK, Dec. 3, 1926—Previous to the issuance of the Government's estimate of the cotton crop as of Nov. 15 the market was nervous and sales were limited, consisting largely of December liquidation. The estimate of 18,399,000 bales had practically no effect on the market, but it went 15 to 20 points higher on a report that ginnings up to Nov. 14 totaled 12,953,000 bales.

For the fourth time in succession a bearish crop estimate failed to disturb the market to any great extent. Prices were about $1.00 a bale higher than a month previously and this fact accounted for persistent investment and foreign demands.

Although the volume of trading during the week ending Nov. 27 was considerably less than that of the previous week, quotations held well, with the high yield wholly discounted as far as prices were concerned. Opinion continued two-sided, with some believing that there is nothing to be concerned about even if the decline predicted by the more pessimistic takes place, as cotton purchased at current levels is a good investment. How much cotton will eventually be abandoned remained purely conjectural; some believed it will amount to at least 1,000,000 bales, and others said it cannot be more than half that quantity.

It has been expected that the visible supply of cotton would increase for a number of weeks to come. The supply reached its crest last year on Jan. 1 with 16,104,000 bales. This year it was expected that the maximum figure may not be reached before March 1. Much stress was laid on the absence of the old speculation in cotton, and interest in the market was not stimulated by the knowledge that the final Government crop estimate was to be made Dec. 8.

During the past week the stubbornness of the market became a commonplace, because there was so little net change in prices. The trade continued to buy steadily, although not on a large scale. Again the truism was heard that when cotton is cheap it is used more extensively in a great many more fields than it is used in when prices are high. Trade orders were a source of constant support on every small decline. The power of resistance of the market in the face of an almost fabulous crop impressed even the most sanguinary.

Current COTTON and FABRIC *Quotations*

COTTON CLOSING PRICES

	Opening.	High-est.	Low-est.	Close Dec. 2	Close Nov. 18
Dec.	12.30	12.33	12.20	12.20	12.63
January	12.05	12.10	11.98	11.99	12.69
March	12.32	12.34	12.23	12.24	12.81
May	12.55	12.57	12.46	12.47	12.96
July	12.78	12.79	12.65	12.65	13.09

TIRE FABRICS

CORD

Peeler, carded, 23/5/3	lb.	.37 @	.38
Peeler, carded, 23/4/3	lb.	.34 @	.35
Peeler, carded, 15/3/3	lb.	.39 @	.40
Peeler, carded, 13/3/3	lb.	.38 @	.39
Egyptian, carded, 23/5/3	lb.	.44 @	.46
Egyptian, combed, 23/5/3	lb.	.50 @	.52

SQUARE WOVEN

Carded American, 17¼ oz. 23-11 ply	lb.	.36½ @	.37½
Carded American, 17¼ oz. 10-5 ply		.33 @	.34

LENO BREAKER

Carded American, 8 oz.	lb.	.35 @	.37
Carded American, 10 oz.	lb.	.35 @	.37

CHAFERS

Carded American, 8¼ oz.	lb.	.33 @	—
Carded American, 9½ oz.	lb.	.33½ @	—
Carded American, 12 oz.	lb.	.33 @	—
Carded American, 14 oz.	lb.	.32 @	—

SHEETINGS

40-inch	2.50-yard	yd.	.11 @	—
40-inch	2.85-yard	yd.	.09½ @	—
40-inch	3.15-yard	yd.	.10⅝ @	—
40-inch	3.60-yard	yd.	.08⅞ @	—
40-inch	3.75-yard	yd.	.07⅞ @	—
40-inch	4.25-yard	yd.	.06¾ @	.07

DUCKS

Belting and Hose	lb.	.27½ @	.28
Enameling	lb.	.30 @	.34
Shoe Ducks	lb.	.33 @	.35
Single filling	lb.	.12¾ @	.15
Double filling	lb.	.15 @	.16

Tire Fabrics

A good business was reported done during the last two weeks, many more contracts being placed than was the case at this time last year, although some mill men contend that tire fabric commitments made thus far this quarter mean little as a basis of comparison, as the covering for 1927 requirements started much later than in previous seasons. Yet these same factors seem to forget that the excellent business done was largely attributable to low cotton quotations. A number of fabric mills held their prices firm and refused business which had been offered at levels under those quoted, for they estimate that purchases to date do not aggregate 50 per cent of first and second quarter requirements. Quotations have been irregular, with the assertion heard that some sellers are giving their customers the benefit of prices unwarranted even in the face of low raw cotton prices.

Sheetings

Scattered sales of sheetings were reported in the last fortnight, with quotations unchanged in most instances. Buyers paid 7¾ cents for 40-inch 3.75-yard. Trading in 40-inch 4.25-yard was at 7 cents with several thousand pieces sold. A fairly good business was done in special constructions for 1927 delivery, but business in most of the standard grades was in limited proportions.

Ducks

During the past two weeks a number of small sales of various constructions were negotiated. Mills are said to be well satisfied with the position they find themselves in with regard to filling commitments for delivery next year, and are confident that quotations cannot go lower. The basis on hose and belting duck continued at 27½ cents, and enameling at 30 cents, with quotations much steadier than they were a month ago. It was observed that buyers have confined their orders to the better grades since the low prices went into effect.

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Grasselerator 552
Grasselerator 808

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THE MARKET PLACE Section Continued on Second Page Following.

STATISTICAL SECTION

TIRES & TUBES
CRUDE RUBBER

AUTOMOBILES
GASOLINE

CRUDE RUBBER prices in London have continued their gradual downward trend since the new restriction regulations were announced and became effective in the restriction quarter begun Nov. 1. As may be seen from the table of London quotations at the bottom of this page, the average quotation on ribbed smoked sheets for the quarter to date is 19.200 pence, a loss of 1.033 pence from the average reported in our last issue. For the same period the average price of ribbed smoked sheets in New York was 38.166 cents, showing only a slight difference of 0.234 cents in the parity between the two markets in favor of London. Automobile production statistics, which are published on Page 259, are also interesting, as they show that the factories materially curtailed operations in October. Crude rubber consumption was 29,836 tons in October, but official figures for November had not been released up to the time this issue went to press.

Average Spot Closing Prices--Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1920

Year	Cents	Year	Cents	Years	Cents
1910	206.60	1914	65.33	1918	60.15
1911	141.30	1915	65.85	1919	48.70
1912	121.60	1916	72.50	1920	36.30
1913	82.04	1917	72.23		

Average Monthly Price per Pound since 1921

Months	1921 Cents	1922 Cents	1923 Cents	1924 Cents	1925 Cents	1926 Cents
Jan.	19.18	18.82	32.73	25.86	36.71	79.50
Feb.	17.96	16.12	35.14	25.29	36.01	62.25
Mar.	17.05	14.53	34.21	22.83	41.00	59.00
Apr.	16.73	15.99	32.48	22.51	43.64	51.25
May	**15.82**	**15.25**	**27.39**	**19.89**	**58.47**	**47.75**
June	12.49	15.11	26.88	18.81	77.26	42.50
July	14.01	14.67	26.10	22.16	103.16	41.03
Aug.	14.04	13.93	28.84	26.17	82.99	38.50
Sept.	14.53	14.44	28.95	27.56	88.88	41.00
Oct.	16.02	19.78	26.93	31.13	98.01	42.50
Nov.	18.06	23.88	27.14	34.33	104.80	38.50
Dec.	20.47	27.42	26.60	37.88	98.51	
Average for Year	16.36	17.50	29.45	26.20	72 46	

London Closing Prices of Ribbed Smoked Sheet

(In pence per pound)

Fifth Restriction Year—First Quarter

Day	Nov.	Dec.	Jan.	Day	Nov.	Dec.	Jan.
1	20⅜	18⅜		16	20⅜		
2	19½	17¾		17	20¼		
3	19⅞			18	19⅞		
4	20			19	19½		
5	20⅜			20	19½		
6	20½			21	—		
7	—			22	19⅜		
8	20⅝			23	19⅛		
9	20¾			24	19¼		
10	20¾			25	19⅛		
11	20¾			26	19⅛		
12	20⅝			27	19		
13	20½			28	—		
14	—			29	18⅜		
15	20¼			30	18½		
				31	—		

(The average price for the period for which daily prices are reported above is approximately 19.200 pence. The British Colonial Secretary has announced that only 70% of the standard production will be exportable from the restricted area during the next quarter if the price during the entire current quarter does not average at least 21 pence.)

Average Price in Previous Quarters

Quarter	1922-23	1923-24	1924-25	1925-26
Nov-Jan	14.285	14.175	17.9983	46.709
Feb-Apr	**16 858**	**12 917**	**19.356**	**28.103**
May-July	14.242	10.974	38 489	21 [illegible]
Aug.-Oct.	14.944	14.632	43.269	20.199

U. S. Imports and Exports of Crude Rubber.

YEARS	Gross Imports: Long Tons	Gross Imports: Total Declared Value	Gross Imports: Average Declared Value per pound Cents	Re-exports: Long Tons	Re-exports: Total Declared Value	Re-exports: Average Declared Value per pound Cents	Net Imports: Long Tons
1900	22,026	$28,577,789	57.92	1,718	$2,839,668	73.77	20,308
1901	24,617	28,120,218	51.00	1,663	2,425,727	65.11	22,954
1902	22,702	25,158,591	49.47	1,457	1,877,698	57.52	21,245
1903	24,886	35,152,642	63.06	1,646	2,598,416	70.47	23,240
1904	27,629	43,784,297	70.75	1,540	2,749,234	79.70	26,089
1905	28,637	48,517,906	75.63	1,616	3,149,989	87.00	27,021
1906	30,316	53,391,137	78.62	1,676	3,153,775	84.02	28,640
1907	30,649	49,813,361	72.56	1,832	3,509,902	85.55	28,817
1908	34,058	44,696,526	58.59	1,655	2,466,428	66.52	32,403
1909	41,950	79,264,817	84.35	2,161	4,233,921	87.46	39,789
1910	40,241	98,007,295	108.73	2,749	8,134,064	132.07	37,494
1911	36,987	74,410,550	89.81	2,523	4,977,174	88.07	34,464
1912	52,705	99,567,071	84.34	2,456	4,692,262	85.31	50,249
1913	51,732	76,820,739	66.29	1,881	3,396,429	80.62	49,851
1914	63,868	70,472,704	49.26	2,618	3,244,346	55.32	61,250
1915	98,876	111,031,144	50.13	2,082	2,357,350	50.54	96,794
1916	120,576	159,745,475	59.15	4,098	5,330,100	58.07	116,478
1917	181,089	233,220,904	57.49	4,000	5,305,289	59.21	117,089
1918	145,518	146,378,313	44.91	2,746	3,133,622	50.95	142,772
1919	239,259	215,820,113	40.27	2,282	2,205,629	43.15	236,977
1920	252,922	242,795,773	42.86	4,160	2,846,898	30.55	248,762
1921	185,394	73,772,677	17.76	5,716	2,414,924	18.86	179,678
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.72	8,772	5,672,319	28.87	300,372
1924	328,056	174,231,331	23.71	10,309	6,057,637	26.23	317,747
1925:							
Jan.	32,898	22,406,756	30.41	1,162	963,593	37.02	31,736
Feb.	24,696	18,532,115	33.50	979	779,406	35.53	23,717
Mar.	33,072	25,146,691	33.94	1,345	1,105,119	36.69	31,727
Apr.	32,506	24,874,562	34.16	1,130	1,009,305	39.86	31,376
May	36,932	30,311,754	36.64	1,203	1,323,445	49.12	35,729
June	31,569	26,855,883	37.98	1,198	1,577,106	58.75	30,371
July	32,455	33,701,723	46.36	1,278	2,132,681	74.52	31,177
Aug.	33,412	39,834,348	53.22	1,131	1,623,258	64.08	32,281
Sept.	26,367	36,686,013	62.11	1,154	1,820,360	70.41	25,213
Oct.	34,651	50,027,338	64.45	1,132	1,989,291	78.43	33,518
Nov.	37,755	56,271,963	66.54	1,605	2,898,930	80.65	36,150
Dec.	40,329	65,055,868	72.02	1,510	2,625,259	77.61	38,819
	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926:							
Jan.	42,404	72,528,151	76.36	2,084	3,747,505	80.28	40,320
Feb.	32,865	58,733,370	79.78	1,430	2,280,168	71.17	31,435
Mar.	42,152	70,589,581	74.76	1,836	2,735,234	66.51	40,316
Apr.	34,544	48,742,539	62.99	1,128	1,605,093	63.58	33,416
May	29,756	36,896,080	55.35	1,052	1,558,987	66.17	28,704
June	24,900	34,498,561	61.85	1,105	1,371,217	55.41	23,795
July	35,820	33,061,470	41.20	1,554	1,743,854	50.09	34,266
Aug.	27,400	24,670,752	40 21	1,318	1,339,563	45.38	26,082
Sept.	37,112	32,625,022	39.02	1,437	1,519,870	47.20	35,675
Oct.	29,333	25,300,483	38.50	1,366	1,316,270	43.02	27,967
Nov.							
Dec.							

ALL THE LEADERS

Are represented in this section. Purchasing agents can rely on the concerns listed as thoroughly reliable in every way.

The Market Place

2.

CHEMICALS — Accelerators
Trimene Base, Heptene, Monex, Crylene, Lithex, Aniline Oil.
Clay—Mineral Flour, Seminole (Georgia).
Antioxidant—VGB, a proven product.
Labels—all-rubber two color brands.
Naugatuck Chemical Co.
1790 Broadway, New York.

CRUDE RUBBER — All Grades. Washed - Dried - Milled.
Send us Your Inquiries.
Gibraltar Rubber Corp.
West New York, N. J.

ENGINEERS
Machinists, Iron and Steel Founders
Standard and Special
Rubber Working Machinery
The Adamson Machine Co.
Akron, Ohio

CHEMICALS and compounding ingredients; Clay, Whiting, Accelerators, Mineral Rubber.
R. T. Vanderbilt Co.
50 East 42nd St. New York City

CRUDE RUBBER
BROKERS
Henderson Brothers Co., Inc.
60 Beaver St., New York City
Members Rubber Exchange of N. Y.

FABRICS—Spots and Contracts: Tire Fabrics, Enameling ducks, Tube Wrapping Tapes.
H. Frank Jones
395 Broadway New York City

CHEMICALS and Mineral Ingredients—Whiting, Clay, Talc, Barytes, Colors, Heavy Calcined Magnesia, Carbonate of Magnesia, Pumice Stone.
Standard Since 1890
Whittaker, Clark & Daniels, Inc.
245 Front St., New York

CRUDE RUBBER
Importers and Dealers
Members Rubber Exchange of N. Y. and Rubber Exchange Clearing House
Henderson, Helm & Co., Inc.
44 Beaver St., New York
Weekly Market Review on Request

FABRICS—Tire, cords, enameling ducks, drills, sheetings, osnaburgs.
J. H. Lane & Co.
250 West 57th St. New York City

CHEMICALS and COLORS
for all classes of mixing and cure. Complete rubber laboratory service for our customers.
Wishnick-Tumpeer, Inc.
New York Chicago Cleveland Boston

CRUDE RUBBER
We Solicit Your Inquiries
H. Muehlstein & Co., Inc.
41 East 42nd. St., N. Y. City
Offices in Akron, Chicago, Boston.

FABRICS—Tire fabrics—coarse builders, chafers, breakers in all grades.
New England Southern Mills
LAWRENCE & CO.
24 Thomas St. New York
Boston, Philadelphia, Chicago, St. Louis, San Francisco

CHEMISTS read your listing in the MARKET PLACE. There is no cheaper way to reach these prospects.
Try It!

CRUDE RUBBER
Importers
Members Rubber Exchange of N. Y., Inc. and Rubber Exchange Clearing House, Inc.
Charles T. Wilson Co., Inc.
82 Beaver St., New York
AKRON OFFICE: 507 Second Nat'l. B'ldg.

FACTICE—Prevents blooming, makes colors fast and a smoother batch.
Stamford Rubber Supply Co.
Stamford, Conn.

CLAYS for the rubber trade.
CONGAREE—Pure White Pulverized.
COLUMBIA — Pure White — Dried and Crushed.
United Clay Mines Corp.
General Offices — — Trenton, N. J.

DIPHENYLGUANIDINE
Aero Brand, product of the highest purity from dependable source of supply.
American Cyanamid Co.
511 Fifth Ave. New York City.

FLUXITE — Liquid and Solid — A rubber softener and aging compound of great efficiency.
Damascus Mnfg. Corp.
E. 93rd. St. & Cassius Ave.,
CLEVELAND, OHIO

CONSULT BANNER
Before You Buy
TIRE BUILDING MACHINES
The Banner Machine Co.
Columbiana, Ohio
Paul A. Frank, Akron, Ohio, Agent.

DRY KILN—for drying crude rubber and chemicals—Hunter Process.
Carrier Engineering Corporation
750 Frelinghuysen Ave. Newark N. J.

GUAYULE—"Duro" Brand washed and dried ready for compounding.
Continental Rubber Co.
120 Broadway New York

THE MARKET PLACE Section Continued on Second Page Following.

United States Tire and Tube Statistics[1]

Production, Sales, and Inventories[2]

AUTOMOBILE CASINGS

	Production During Month					Sales During Month					Inventory at End of Month				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Jan.	2,740	4,170	4,294	4,740	4,721	2,194	4,114	3,785	4,013	2,974	5,566	6,261	6,411	7,949	9,947
Feb.	2,779	4,291	4,372	4,908	4,865	2,144	3,568	3,849	3,924	3,436	6,255	6,966	7,020	8,928	11,164
Mar.	3,528	5,154	4,570	5,276	5,456	2,847	4,570	3,988	4,657	4,561	6,911	7,561	7,684	9,510	12,004
Apr.	3,202	4,719	4,410	5,341	5,346	2,853	4,106	4,018	5,498	4,980	7,286	8,118	8,219	9,088	12,461
May	3,629	4,880	4,051	5,467	5,023	3,608	3,793	3,693	5,954	5,211	7,364	9,209	8,442	8,611	12,343
June	3,785	3,943	3,506	5,418	5,422	4,281	3,448	3,671	6,737	5,724	6,723	9,387	8,207	7,243	11,968
July	3,302	2,657	3,403	5,587	4,950	3,678	3,463	4,748	6,298	6,337	6,445	8,628	6,851	6,421	10,592
Aug.	3,874	3,141	4,313	5,607	5,872	4,153	3,803	5,010	4,760	6,944	6,173	8,078	5,969	7,261	9,732
Sept.	3,340	2,706	4,708	5,007	5,706	3,407	3,563	4,539	4,569	6,040	6,149	7,197	6,033	7,681	9,318
Oct.	3,566	3,148	5,169	4,505		3,534	3,821	4,196	5,580		6,244	6,502	7,118	6,670	
Nov.	3,644	3,200	4,253	4,229		3,248	3,408	4,480	3,671		6,620	6,252	6,943	6,955	
Dec.	3,543	3,250	4,584	4,760		4,040	3,547	4,143	3,601		6,132	5,772	7,427	8,142	
	40,932	45,259	51,633	60,845		39,987	45,204	50,120	59,262						

AUTOMOBILE INNER TUBES

	Production During Month					Sales During Month					Inventory at End of Month				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Jan.	3,125	5,269	5,184	6,343	6,809	2,552	5,091	4,723	5,576	3,723	6,996	7,784	8,960	11,570	14,361
Feb.	3,462	5,386	5,424	6,339	6,825	2,310	4,085	4,530	4,971	3,736	8,189	9,029	9,786	13,023	17,090
Mar.	4,023	6,501	5,625	7,000	7,030	2,848	5,214	4,667	5,711	4,987	9,321	10,321	10,877	14,236	19,131
Apr.	3,534	5,679	5,380	6,851	6,554	3,162	4,825	4,782	6,704	5,051	9,640	11,192	11,503	13,618	20,674
May	3,961	5,757	4,992	6,846	6,149	3,995	4,651	4,865	8,040	6,304	9,586	12,390	11,682	12,501	21,141
June	4,174	4,787	4,658	6,942	6,171	5,391	4,882	5,286	9,032	6,898	8,249	11,899	10,888	10,409	20,243
July	4,091	3,500	5,143	7,544	5,729	4,905	5,374	7,190	9,140	8,569	7,568	9,862	8,845	8,635	17,267
Aug.	5,078	4,771	6,688	7,618	7,424	5,733	5,800	7,493	6,923	9,579	6,943	9,267	7,678	9,271	15,462
Sept.	4,669	4,339	7,342	7,254	7,590	4,797	4,966	6,908	6,665	7,762	6,886	8,610	8,052	9,950	15,312
Oct.	5,050	5,140	7,861	6,612		4,618	4,848	5,700	7,845		7,317	9,198	9,803	8,726	
Nov.	5,135	4,602	6,136	6,266		4,165	4,604	6,332	5,406		8,280	8,925	10,224	9,491	
Dec.	4,548	4,385	6,273	6,999		5,197	4,732	5,540	4,991		7,643	8,425	11,052	11,313	
	50,850	60,116	70,706	82,614		49,673	59,072	68,016	81,004						

(1) *Statistics of The Rubber Association of America, raised to 100%.* (2) *All figures expressed in thousands.*

Stock of Crude Rubber in United States and London

(All Quantities in Long Tons)

UNITED STATES

At End of	ON HAND			AFLOAT			ON HAND AND AFLOAT		
	1924	1925	1926	1924	1925	1926	1924	1925	1926
Jan.	——	60,870	55,198	——	36,759	46,296	——	97,629	100,434
Feb.	——	54,109	58,035	——	41,475	46,935	——	95,584	104,970
Mar.	——	52,494	61,822	——	40,577	43,567	——	93,071	105,389
Apr.	——	50,143	55,261	——	53,465	41,905	——	103,608	97,166
May	——	52,064	64,360	——	46,846	40,303	——	98,910	104,663
June	——	50,997	60,460	——	51,202	40,907	——	102,199	101,367
July	——	46,245	64,900	——	46,003	38,062	——	92,248	102,962
Aug.	——	42,354	60,870	——	41,254	37,360	——	83,608	98,230
Sept.	——	36,367	62,078	——	55,151	42,464	——	91,518	105,542
Oct.	55,378	34,085	64,989	46,359	51,098	52,930	101,737	85,183	117,919
Nov.	59,017	34,885		35,685	42,692		94,702	86,577	
Dec.	56,080	51,215		46,216	48,208		102,296	99,423	

(Rubber Association of America figures raised to 100%.)

LONDON

(In Wharves and Warehouses—Figures Include Latex)

At End of:	1920	1921	1922	1923	1924	1925	1926
January	19,300	56,573	67,252	73,498	57,460	27,172	9,994
February	18,329	59,439	67,623	70,483	56,732	23,425	10,004
March	18,969	63,913	66,670	63,438	55,647	18,104	13,750
April	20,072	68,759	68,637	58,770	54,559	12,949	18,951
May	20,921	70,403	70,146	54,439	51,615	5,895	20,896
June	22,517	69,408	71,597	51,050	51,115	5,318	23,894
July	25,346	71,065	71,515	49,937	52,073	4,258	27,727
August	30,674	73,211	72,112	48,427	49,700	4,619	30,764
September	35,504	72,175	70,977	54,523	44,011	5,453	35,077
October	41,743	69,229	68,536	58,891	37,523	5,086	42,141
November	45,550	70,786	68,548	60,074	33,593	3,869	
December	50,652	69,792	72,299	60,246	29,488	5,697	

United States Consumption of Gasoline

(Gallons)

MONTHS:	1918	1919	1920	1921	1922	1923	1924	1925	1926
January	144,579,291	169,240,627	236,073,140	294,750,791	282,717,148	456,967,163	500,420,689	595,413,000	720,358,000
February	147,204,377	185,900,192	248,395,214	225,195,372	262,925,732	380,093,070	402,703,876	543,640,000	650,718,000
March	219,333,317	201,004,317	256,020,539	346,164,546	380,406,778	446,460,208	467,181,088	625,053,000	779,571,000
April	265,151,411	243,440,615	297,000,463	333,290,921	385,230,994	485,716,788	607,175,026	798,305,000	831,410,000
May	313,824,603	327,610,273	378,912,692	354,263,486	499,724,405	582,535,781	672,495,321	841,787,000	989,857,000
June	306,677,723	305,960,438	427,747,291	442,924,973	506,959,446	633,504,590	682,409,140	868,350,000	969,051,000
July	353,589,555	296,242,260	434,878,617	457,758,078	566,099,329	674,019,467	789,666,590	963,071,000	1,014,804,000
August	339,435,744	376,484,274	479,741,391	505,035,827	583,687,932	692,154,000	828,057,347	931,901,000	1,103,844,000
September	284,685,213	367,633,742	450,888,670	438,083,634	507,924,207	655,797,616	718,068,823	848,867,000	942,858,000
October	299,642,892	338,429,709	384,802,246	454,995,551	490,393,454	621,172,668	751,499,199	831,774,000	986,496,000
November	245,278,844	284,620,809	366,567,344	350,548,481	471,616,103	538,308,809	698,359,199	757,744,000	
December	209,863,377	238,245,230	289,673,556	313,015,596	434,399,514	518,305,120	657,967,000	759,699,000	
TOTAL	3,129,266,347	3,434,812,486	4,250,696,163	4,516,027,258	5,372,085,042	6,685,035,280	7,770,238,000	9,365,604,000	

The Market Place

3.

HEELS, soles and strips
We can make any special brand with your molds or with ours. Best quality at the lowest price. Consult us.
P. & B. Rubber Mfg. Co., Inc.
Laurel Hills, Long Island, N. Y.

MOLDS AND CORES—
Tire building equipment; general machine work.
The Akron Equipment Co.
Akron, Ohio

RECLAIMED RUBBER—
Uniformity, reliability, cleanliness.
Pequanoc Rubber Co.
Butler, N. J.

LINERS — PROCESSED
For
Various Rubber Stocks
The Cleveland Liner & Mfg. Co.
5508 Maurice Ave., Cleveland, O.

MOLDS & CORES—Tire building machines; tire finishing stands; tubing machines; hydraulic presses.
The Akron Standard Mold Co.
Akron, Ohio

RECLAIMED RUBBER
of Standardized Quality.
NO. 188 FOR TUBES
Philadelphia Rubber Works Co.
New York Akron Philadelphia

MACHINERY—
Heater Presses, Molds and Cores, Tubing Machines.
The Williams Foundry & Mach. Co.
"In Business Since 1888"
Akron, Ohio

MOLDS & CORES—for automobile tires; general machine work.
Kuhlke Machine Co.
Akron, Ohio

RECLAIMED RUBBER—
for all purposes.
Rubber Regenerating Co.
Naugatuck, Conn.

MANDRELS--CIRCULAR
and Economy Calender Shells
Prompt Service—Let us quote you.
The Clyde E. Lowe Co.
2976 E. 81st St., Cleveland, Ohio

"NU-GUM" RUBBER
Produced from No. 1 Floating Tubes. Absolutely pure — no oils —no compound added. *Specific Gravity*, .98.
E. L. Bullock & Sons, Inc.
99 John St. New York City

RECLAIMED RUBBER
A standardized grade for every requirement.
U. S. Rubber Reclaiming Co., Inc.
100 E. 42nd St., New York, N. Y.
"43 Years Serving the Industry Solely as Reclaimers"

MICA — Water Ground and Water Floated — 160 Mesh —Absolutely Free from Grit. Akron Stocks, also Factory Shipments.
The C. P. Hall Co.
116 Central Savings & Trust Bldg., Akron

PINE TAR — Retort "Sunny South", "Pentarco", "American". Brands for Tires, Tubes, Mechanicals,—Reclaim. *The Best Softener*
E. W. Colledge
P. O. Box 356 Jacksonville, Fla.
Agents in New York, Chicago, Cleveland.

RECLAIMED RUBBER
The Xylos Rubber Co.
Akron, Ohio
CAPACITY 250,000 POUNDS DAILY

MICA—160 mesh—water ground —water floated—free from foreign matter.
Stocks carried at Trenton, N. J.— Cleveland, O.—Chicago, Ill.
The Harshaw Fuller & Goodwin Company
Hanna Building, Cleveland, Ohio

POWER EQUIPMENT
Boilers — Compressors — Pumps
Generators — Tanks — Heaters
Rubber Machinery
F. William Stocker
Hoboken, New Jersey.

RED OXIDE—A special grinding, guaranteed uniform in color and quality.
Joseph A. McNulty
114 Liberty St. New York City

MOLDS
FOR TIRES, MECHANICAL GOODS & DRUGGIST SUNDRIES.
The Akron Rubber Mold & Machine Co.
AKRON, OHIO.

RECLAIMED RUBBER
We specialize in fine Grey, Black and Red Reclaimed Rubber.
Send us Your Inquiries
The Defiance Rubber Co.
Defiance, Ohio

RUBBER—Crude and scrap, all grades.
H. Muehlstein & Co.
Liggett Bldg. New York
Akron, Chicago, Boston, Hoboken

THE MARKET PLACE Section Continued on Second Page Following.

Exports of Crude Rubber from Principal Producing Countries

(Figures in Long Tons)

	British Malaya[1]								Dutch East Indies[2]			French[3]		
	Gross Exports	*Imports*	*Net Exports*	*Ceylon*[3]	*India & Burma*[3]	*Br. North Borneo*[4]	*Sarawak*[4]	*Siam*[4]	*Java & Madura*	*Sumatra E. Coast*	*Other D.E.I.*	*Indo-China*	*Amazon Valley*[5]	*Total*[7]
1923	252,016	70,432	181,584	37,112	6,416	5,433	1,744	1,718	32,938	44,002	57,822	5,606	19,859	394,263
1924	259,760	107,419	152,341	37,351	7,697	6,485	1,892	2,962	42,446	52,499	80,347	6,688	23,164	413,872
1925	316,825	158,022	158,803	45,684	10,082	8,460	2,308	5,378	46,643	62,678	119,271		25,307	
1925:														
Jan.	19,183	10,132	9,051	3,065	1,090	605	180	404	3,053	5,097	5,858	701	1,712	30,816
Feb.	21,622	10,071	11,551	2,207	1,121	469	148	283	3,490	5,139	8,569	586	2,977	36,540
Mar.	26,836	13,399	13,437	4,201	984	756	209	437	4,583	5,499	10,807	487	2,459	43,859
Apr.	22,414	11,751	10,663	3,250	684	483	164	384	4,121	4,663	8,536	482	1,585	35,015
May	26,667	12,979	13,688	2,600	585	717	189	489	3,624	4,455	12,006	599	2,588	41,540
June	27,894	14,706	13,188	3,502	831	1,046	195	430	4,187	4,667	10,644	833	1,653	41,176
July	24,809	16,192	8,617	4,487	680	955	218	533	4,719	5,24-	10,516	411	1,142	37,522
Aug.	27,753	12,025	15,728	3,409	671	548	194	436	3,210	5,186	9,445	484	1,810	41,121
Sept.	29,425	12,913	16,512	4,758	745	766	218	533	3,364	4,913	10,628	764	2,140	45,341
Oct.	28,711	14,986	13,725	5,270	516	639	199	708	3,516	5,511	11,767	683	2,240	44,774
Nov.	31,648	14,904	16,744	3,980	1,044	838	186	411	4,657	6,349	11,958	991	2,620	49,778
Dec.	29,863	13,964	15,899	4,955	1,131	638	208	330	4,119	5,955	8,537	860	2,381	45,013
	316,825	158,022	158,803	45,684	10,082	8,460	2,308	5,378	46,643	62,678	119,271	7,881	25,307	492,495
1926:														
Jan.	30,452	10,237	20,433	4,058	1,273	416	196	288	4,397	6,277	8,081	915	1,284	47,618
Feb.	30,440	8,306	22,134	4,941	725	488	141	253	4,474	5,734	6,801	554	2,759	49,004
Mar.	35,012	14,800	20,212	5,708	1,113	792	232	418	4,865	5,612	11,880	573	2,126	53,531
Apr.	23,727	10,565	13,162	3,484	590	679	251	294	4,522	4,598	6,208	410	2,318	36,516
May	31,231	10,604	20,627	3,600	691	927	157	279	4,742	5,293	8,606	502	1,353	46,777
June	30,624	11,764	18,860	3,906	452	779	160	275	5,440	6,111	9,844	549	1,213	47,589
July	28,824	15,280	13,544	4,800	938	911	242	438	4,929	5,522	12,864	1,521		
Aug.	34,625	13,595	21,030	5,246	521	890	168	316	4,418		10,349	378		
Sept.	35,913	13,972				887	213	457				681		
Oct.														
Nov.														
Dec.														

(1) Malayan net exports cannot be taken as Malayan production since much of the imported rubber contains a high percentge of moisture and impurities which are eliminated before it is re-exported; the Malayan figures do not contain rubber exported as latex which on the basis of 3 pounds per gallon amounted to 99 tons in 1923, 957 tons in 1924 and 3,101 tons in 1925. (2) Ceylon Chamber of Commerce statistics until 1926. (3) Official statistics. (4) Figures for Sarawak, British North Borneo and Siam are imports from these territories into Singapore through which port practically their entire production moves. (5) Exports from "Other Dutch East Indies" are chiefly native rubber which contains one-third of moisture and impurities for which no allowance has been made in the statistics; rubber shipped as latex has not been included and amounted to 6,355 tons in 1923, 2,735 tons in 1924 and 6,207 tons in 11 months of 1925. (6) Exports through Para, Manaos and Iquitos. (7) This total includes the net exports from British Malaya and all the figures shown for the other territories.

Net Imports of Crude Rubber into Principal Manufacturing Countries

(Long Tons)

	United States	*United Kingdom*	*France* (abd)	*Germany*	*Canada* (ac)	*Japan* (ac)	*Italy*	*Russia* (ce)	*Australia* (cf)	*Belgium* (d)	*Netherlands*	*Sweden* (abcd)	*Norway* (abc)	*Denmark* (abd)
1919	236,977	42,671	19,951	5,584	8,770	10,688	9,894	75	733	3,995	2,771	2,022	437	673
1920	248,762	56,844	15,868	11,890	11,912	6,015	6,123	62	1,040	3,840	5,510	1,567	241	479
1921	179,678	42,087	16,981	21,920	8,248	22,981	3,906	165	554	1,705	1,022	813	178	251
1922	296,267	11,724	27,644	27,546	9,366	16,449	6,430	2,453	2,649	172	-3,807	1,248	321	87
1923	300,372	12,700	31,067	18,519	13,299	17,181	8,489	4,506	1,631	2,184	792	1,391	448	354
1924	317,747	-11,550	34,488	22,727	14,420	19,612	8,764	824	3,127	2,688	-807	1,781	669	473
1925	381,815	4,061	36,911	33,937	19,825	12,743	11,412	7,088	4,217	2,930	875	1,690	701	440
1925:														
January	31,736	-284	2,147	4,303	1,432	797	552	333	192	331	109	164	64	16
February	23,717	-2,492	3,529	3,690	1,278	658	908	1,000	338	275	88	136	145	37
March	31,727	-3,396	3,924	2,784	2,349	689	1,463	1,083	357	373	56	183	77	71
April	31,376	-2,961	3,069	3,574	1,397	719	817	535	314	97	181	149	47	22
May	35,729	-8,650	3,223	3,834	1,532	863	1,060	1,999	385	228	47	126	47	16
June	30,371	619	2,387	3,239	1,681	2,095	1,506	59	378	329	120	97	43	74
July	31,177	2,204	1,827	2,606	1,613	813	650	16	341	176	28	114	45	24
August	32,281	3,825	1,109	2,942	1,582	786	631	85	297	169	78	119	53	35
September	25,213	5,369	4,633	2,667	1,202	936	939	234	429	283	136	102	54	20
October	33,519	1,203	3,039	2,325	1,799	1,060	914	21	243	255	60	159	38	38
November	36,150	2,466	4,654	1,260	1,712	2,140	1,157	190	512	236	-12	219	55	52
December	38,819	6,158	5,370	713	2,248	1,187	815	1,533	431	178	-14	122	33	35
1926:														
January	40,320	6,439	3,170	703	2,188	892	760	332	358	76	154	123	46	51
February	31,435	3,114	3,513	1,113	1,685	741	1,041	643	432	275	89	171	82	94
March	40,316	8,907	4,790	1,342	2,079	864	1,037	832	469	129	227	213	31	55
Apr.	33,416	8,275	4,834	1,781	1,615	1,868	865	402	431	71	93	204	27	23
May	28,704	6,773	2,937	1,848	1,239	1,010	705	300	386	186	241	110	24	47
June	23,795	5,894	2,327	1,655	1,188	1,465	1,070	983	546	269	214	178	20	74
July	34,267	6,758	2,603	2,202	1,552		800	176	586	212	480	195	34	27
Aug.	26,081	7,327	2,819	2,110	1,888			655		303	596	199	52	55
Sept.	35,674	8,599		2,029	1,355			472			430	159	43	
Oct.														
Nov.														
Dec.														

a—Including gutta percha. b—Including balata. c—Reexports not deducted. d—Believed to include scrap and reclaimed rubber. e—Russian statistics are exports from United Kingdom only to Russia. f—Australian annual statistics including 1924 are exports to Australia from Malaya, Ceylon, Dutch East Indies and United Kingdom; monthly figures and total for 1925 are exports from Malaya, Ceylon, and Java only. -Minus sign, reexports in excess of imports. *All statistics from original official trade returns.*

The Market Place

4.

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Buyers will see your products if they are listed in THE MARKET PLACE regularly, for they consult this section twice-every-month for their needs.

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—*New York Market, in Cents per Pound*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31 Average
1924																															
Jan.	—	26¼	—	26½	26¾	—	26½	26¼	26⅜	26¼	26¼	26¼	—	25⅞	26¼	26	26⅛	25⅝	25½	—	25⅝	25¼	25½	24⅞	25⅜	25⅝	25⅝	—	25¼	25	25⅛
Feb.	25⅜	25¾	—	25⅞	25¾	25¼	25⅞	25⅞	25⅝	25⅝	25⅝	25⅝	25½	25⅝	25⅝	25¾	25⅝	25⅝	25⅝	25⅝	25¼	25¼	25½	25⅛	25⅝	25⅝	25⅝	25⅛	25¼	—	25⅛
Mar.	25⅛	—	24¾	24	24¼	24½	24½	24¼	—	23¾	23¼	22⅞	22	22	21¾	21¾	21¾	21¾	22⅛	22	21¾	21¾	22	22	22	21¾	21¾	21¾	22	—	22
Apr.	22½	22¾	23⅜	23	22¼	21¾	21¾	22⅜	22⅜	21⅞	22¼	22¼	22¼	23⅛	22¼	22¼	22¼	22¼	22½	22¼	22⅜	22⅜	22⅜	22⅜	22⅜	22⅜	22⅜	22⅜	22⅜	22⅜	22¾
May	22¾	21⅞	22	21⅞	21⅞	—	21⅞	21	22¼	21⅞	—	—	20⅜	19⅞	20	19	18½	18½	17⅞	18	18½	18⅜	18⅜	19⅛	18⅜	18⅜	18⅜	18⅜	18⅜	18¾	19⅜
June	18⅜	19⅜	19¾	19⅜	19⅜	19½	19⅜	19⅜	21	19⅜	20¾	19⅜	19⅜	19⅜	19⅜	19⅜	18⅜	18⅜	18⅜	18⅜	18½	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜
July	18⅜	19¾	19¾	—	19⅜	—	19⅜	19⅜	20¼	19⅜	20¾	19⅜	—	19⅜	20	19⅜	18⅜	18⅜	18⅜	18⅜	18½	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜
Aug.	23¾	23¾	—	24	26¾	25½	27¼	26¾	27	27	27½	27¼	25¾	25	21¾	21	21⅞	21⅞	21⅞	26⅜	27¼	26⅞	26⅞	22⅞	22⅞	26⅜	26⅜	26⅜	23¾	23¾	22⅞
Sept.	26⅜	26¾	26½	26¾	26¾	26¾	27⅛	27¼	27	27	27¼	27¼	27⅜	27⅜	27⅜	27⅜	27⅜	27⅜	27⅜	27⅜	27¾	27⅜	27⅜	27⅜	27⅜	27⅜	27⅜	27⅜	27⅜	26⅞	26⅞
Oct.	26⅜	29½	29½	29⅜	29⅜	29⅜	29⅛	29½	29½	30	31	31¼	31½	31½	30⅞	30¾	31½	31½	—	31¾	32¼	32¼	32¼	32⅜	32⅜	32⅜	32⅜	32⅜	32⅜	34⅜	31⅞
Nov.	84⅜	34¾	34½	34¾	34½	34½	34⅜	34½	34⅞	34⅞	34⅜	34	34¼	34	34½	34	34	34	34	34	34	34	34	34	34	34	34	34	34	33⅞	33⅜
Dec.	85⅜	35⅜	36	36¾	36⅞	37⅜	—	38	37⅝	37⅝	37½	37½	37⅜	37⅜	37⅝	37½	37⅜	38	38⅜	38⅜	38⅜	39⅛	38⅜	38⅞	38⅞	38⅞	38⅞	38⅞	39⅜	40⅜	37⅜
1925																															
Jan.	—	39⅞	39⅜	—	39	39	39¼	38⅜	38⅜	38⅜	—	37⅞	36½	36⅜	35	35⅞	35⅝	—	34⅝	34⅜	35	35⅛	36¼	36⅜	35⅝	35⅝	35⅝	35⅝	35	35⅞	36⅜
Feb.	—	35⅜	34⅜	—	34½	34¾	35⅜	—	34⅜	35⅜	—	—	35⅞	36⅜	—	36⅜	36⅜	35⅜	36⅜	36⅜	36⅜	37⅛	37⅜	37⅜	37⅜	37⅜	37⅜	37⅜	—	—	36
Mar.	—	38⅜	38⅜	38¾	38⅜	39¾	39¾	—	39⅜	40⅜	40¾	—	40⅜	40⅜	40½	40⅜	41	41	41¼	41⅞	41⅞	42	42½	42½	43⅛	43⅜	43⅜	43⅜	44½	44¼	41
Apr.	41¾	41⅜	41¼	41⅜	41⅜	42⅜	42⅜	43⅛	44⅜	44⅜	44⅜	44⅜	44⅜	44⅜	44⅜	44⅜	44	44	44	44	44⅞	43⅞	43¾	43¾	44⅜	44⅜	44⅜	44⅜	45⅜	45⅜	43⅞
May	45	45⅜	—	47⅜	46⅞	48⅜	50⅛	52½	55⅜	—	—	59	59⅜	60⅜	60⅜	60⅜	64¼	64¼	63	63	61⅜	60⅜	61⅞	63	63	63⅜	63⅜	63⅜	69½	65⅜	58⅞
June	69⅜	72	—	72	75⅜	75⅜	74⅛	74⅞	73⅞	74	75¼	76⅜	74⅞	74⅞	71⅞	71⅞	72⅜	73⅜	75½	76¼	—	79¼	79¼	85⅜	88⅛	87⅞	89	85⅞	82⅜	77⅞	
July	81½	81⅜	—	85⅜	88⅛	86⅜	90½	95⅜	94⅞	99⅞	106½	76⅛	76½	105⅜	110⅜	110⅜	116⅜	118⅜	—	80¾	83½	82½	82½	82¾	93¾	93¾	93¾	93¾	93¾	103⅜	
Aug.	94½	95½	95½	88⅜	85⅜	81¾	81¾	81¾	80½	71⅞	72½	76½	81½	80⅜	77⅜	—	78¼	80½	80¾	83½	82½	90	89	89	90	87¼	85¼	87¼	90	83	
Sept.	88¼	87¼	85	92	81¼	81¼	81¼	78¼	99¼	101	86½	92	92½	95½	97	93¾	92¾	92¾	94¼	92	93¼	99¼	98¾	99¼	99¼	91½	91½	91½	100¼	88⅜	
Oct.	91¼	91¼	92	—	94½	97	97⅜	99	98¾	99½	100¾	101¾	104½	105½	—	99¼	99	107	99¾	110¾	110½	109	110¼	109¾	99¾	101½	107	99¼	100¾	98	
Nov.	—	99¾	—	98¾	98¼	100	100¾	109	109¾	106	105¾	105½	—	101	99¼	90¼	93	107	109¾	110¾	110½	109	106¼	—	108¼	108¾	—	107	104¾		
Dec.	106¾	108½	107¾	107¾	108¼	—	108	109	109¾	106	105¾	105½	—	—	99¼	90¼	93	88¾	86¾	—	88¼	90¼	88¼	88¾	—	—	91	93	91¼	98½	
1926																															
Jan.	—	—	—	87	87¼	85½	86½	87½	87¾	—	88¼	88¾	88¼	85¼	84½	83½	—	75⅝	75⅝	75⅝	75	72	72½	—	68	66¼	67	69¼	70½	—	79½
Feb.	67	66¼	66¼	66¼	69	—	—	69	66	65	66	63	65½	—	63	60½	61	60	59	60	—	56	55	60	51¼	51	—	—	58	62¾	
Mar.	55	67½	53	53	53¼	57½	—	56	55½	53	60	61	61½	50	62	60½	61	62	61	60	61	61	60	59	59½	59	59	59½	58½	59	
Apr.	59	58	59	58	58	58	56½	56½	53	58	60	63	61½	50	62	60½	61	62	61	60	61	61	60	59	59½	59	59	59½	58½	59	
May	48¼	—	50	50¾	49¾	49¾	49¾	49½	—	49	49¼	49	48½	47¾	47½	48½	47	47	47½	47½	48	48	48½	46	45	48	48	48	48½	47¾	
June	41½	43	42	41¾	42	41½	41½	42	43	42	43	43	43	42	43½	43	43	43	43	43	43	44	46	43½	45	45	45	42	43	42	42½
July	43	42	42	41½	41½	41½	41½	41½	41½	41½	41½	41½	41	40	40	40	40	40	40	40	40	41½	41½	41½	41½	42	42	42	42	39¾	41¼
Aug.	—	38⅜	38½	37	37	39	39	38¾	40	40¼	40½	37½	37½	38½	40¼	40¼	40½	38	38	38	39	39	39	39	39	39	42¾	42½	42½	40	39½
Sept.	40¼	40¼	40¼	—	42¾	42¾	42½	42½	42½	42½	—	—	42½	42⅝	43	43⅜	43⅜	43⅜	43⅜	42¼	42¼	42	42	42	42¾	42¾	42½	42½	42½	42½	
Oct.	43	43	—	43¼	43¼	42¾	42½	42½	41¾	42¾	42⅝	—	42½	42⅝	42⅝	42⅝	42⅝	42⅝	42⅝	42⅝	42⅝	42⅝	42⅝	42⅝	42½	42½	42½	42½	42½	42½	42½
Nov.	41¼	—	41	41¼	41¼	41½	41½	41½	41¾	42⅜	42⅜	41¾	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	
Dec.	36¾	37½																													

Automobile Production

	Passenger Cars			Trucks		
	Total	United States	Canada	Total	United States	Canada
1920	1,883,158	1,799,522	83,636	322,039	311,531	10,508
1921	1,514,000	1,452,902	61,098	147,550	142,402	5,148
1922	2,397,827	2,302,923	94,904	251,434	244,285	7,149
1923	3,719,164	3,589,936	129,228	378,288	361,078	17,210
1924						
January	293,824	283,983	9,841	30,785	29,038	1,747
February	343,460	331,388	12,072	32,974	31,295	1,679
March	357,045	341,851	15,194	36,505	34,466	2,040
April	346,405	331,957	14,448	38,037	36,104	1,933
May	286,324	271,033	15,291	35,408	33,655	1,753
June	225,079	214,322	10,757	29,135	28,185	950
July	244,544	235,925	8,619	26,448	25,341	1,107
August	255,232	249,796	5,436	28,714	27,834	880
September	263,528	256,940	6,588	32,015	30,663	1,351
October	260,881	254,524	6,357	32,533	31,263	1,270
November	204,343	198,381	5,962	27,956	26,875	1,081
December	182,099	174,899	7,200	27,596	25,906	1,690
Total	3,262,764	3,144,999	117,765	378,106	360,625	17,481
1925						
January	212,921	204,620	8,301	28,198	26,633	1,565
February	252,803	242,024	10,779	34,467	32,774	1,693
March	332,154	319,140	13,014	45,168	43,079	2,089
April	391,302	375,787	15,515	47,898	46,322	1,576
May	382,714	364,363	18,351	43,380	41,492	1,888
June	364,806	350,557	14,249	38,141	36,347	1,794
July	358,554	347,414	11,140	41,915	40,070	1,845
August	221,831	214,401	7,430	37,843	36,357	1,486
September	272,425	262,053	10,372	60,452	57,972	2,480
October	406,572	392,651	13,921	46,003	44,309	1,694
November	336,358	327,617	8,741	40,077	37,840	2,237
December	285,199	277,701	7,498	34,477	32,746	1,731
Total	3,817,639	3,678,328	139,311	498,019	475,941	22,078
1926*						
January	284,703	272,922	11,781	33,461	29,763	3,698
February	334,524	319,763	14,761	41,685	37,608	4,077
March	399,105	381,116	17,989	49,233	44,848	4,385
April	401,836	383,907	17,929	53,887	50,314	3,573
May	394,569	373,140	21,429	51,343	47,838	3,505
June	358,360	339,542	18,818	47,043	44,110	2,933
July	328,816	315,863	12,953	41,847	39,592	2,255
August	393,040	380,258	12,782	47,907	45,404	2,503
September	363,537	350,913	12,624	51,299	46,428	4,871
October	299,443	288,848	10,595	49,965	42,890	7,075
November						
December						

*Revised Figures

U. S. Consumption of Crude Rubber

(Rubber Association of America statistics raised to 100 per cent—All figures in long tons)

	1921	1922	1923	1924	1925	1926
January	5,045	16,938	30,106	29,058	29,638	32,196
February	5,955	14,767	30,149	25,736	29,761	31,136
March	9,190	21,408	36,629	28,385	33,498	32,936
April	13,084	19,294	29,085	27,129	34,139	32,696
May	16,023	23,246	36,155	25,845	35,322	29,364
June	16,142	31,713	24,272	22,753	35,822	28,598
July	18,310	24,522	17,685	23,396	36,053	27,577
August	23,649	29,361	20,259	28,962	35,909	34,444
September	16,705	24,410	17,594	31,497	31,691	32,904
October	16,814	26,881	21,321	31,520	29,047	29,836
November	14,105	24,950	20,437	27,289	28,853	
December	15,482	25,070	21,902	27,199	28,748	
TOTALS	170,504	282,560	305,694	328,769	388,481	

Monthly statistics covering shipments of various classes of rubber goods from the United States may be secured free of charge from the Rubber Division, Bureau of Foreign & Domestic Commerce, Washington, D.C.

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Sanitary Elastic Belts	Crib Sheets
Sanitary Bloomers	Bathing Caps
Sanitary Stepins	Rubber Specialties
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REVIEW DESK

ANNUAL REPORT OF DIRECTOR OF THE BUREAU OF STANDARDS. For Fiscal Year Ended June 30, 1926. 5¾" x 9". 45 pp. and Appendix. Government Printing Office, Washington. Price 5 cents.

Of chief interest to rubber manufacturers and technical men is mention of the work done in guayule, study of the aging of soft rubber compounds and tests of automobile tires for Government use.

An investigation of the aging properties of soft rubber compounds begun in January, 1925, was continued during the past year. The work to date covers the aging of a series of compounds under all conditions of storage and exposure. It was found that certain types of compounds resist the deteriorating effects of time much better than others, and results showing striking difference in aging properties are being compiled for publication by the Bureau. The importance of this study lies in the fact that rubber goods purchased in quantity often deteriorate in storage to such an extent that they are unfit for use.

The Bureau is also making a study of the properties of guayule in cooperation with the Continental Mexican Rubber Company. By improved processes in the extraction of this rubber from the shrub, an attempt is being made to obtain a better quality product.

It is stated in the report that the purchase of tires by the Government constitutes an item of expense which during the past year amounted to approximately $1,000,000. Equipment at the Bureau has been of great value in testing representative tires offered by manufacturers, as it insures that the tires purchased meet the specification requirements. Tests have also been made for several States and municipalities, as well as for tire manufacturers who did not have their own equipment for testing. The Bureau's work has been of material assistance to manufacturers, and in a number of cases the design of tires has been improved as a result of some weakness which developed under test.

* * *

BUSINESS ORGANIZATION. Number Four. The Industrial Traffic Manager. 32 pp. 5¼" x 7¾". Policyholders' Service Bureau. Metropolitan Life Insurance Company, New York.

The functions of the traffic manager, the information he requires, his value to a company are discussed in this booklet. An organization chart of a typical centralized type of traffic organization and a description of the duties of the manager, his assistant and all other persons in the traffic department are contained in the first part. The second part is devoted to information for the traffic manager himself, including information from within the company and from outside. Value of the manager is discussed in the third part, and in the fourth part, his place in an organization is dealt with.

Among the traffic managers who cooperated on preparing the booklet were the following, all of whom are well-known in the rubber industry: H. D. Anderson, traffic manager, Dow Chemical Company, Midland, Mich.; J. A. Middleton, traffic manager, Eagle-Pitcher Lead Company, Chicago, Ill.; H. J. Zimmerman, traffic manager, B. F. Goodrich Company, Akron, Ohio; R. H. Goebel, manager of the traffic department, Rubber Association of America.

* * *

A MANUAL OF RUBBER PLANTING COMPANIES. 139 pp. 5 1-2" x 8". Compiled for private circulation by Zorn and Leigh-Hunt, 3 Great Winchester St., London, E.C. 2.

The twelfth edition of this well-known manual has been, as far as possible, brought up to date and supplies in a handy form most of the information desired by investors in rubber plantation companies. Although Zorn and Leigh-Hunt make no pretense of including all the known plantation companies in the manual, the selection covers a wide field, embracing more than 500 companies. An interesting exposition of the Stevenson Plan is contained in a preface.

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